

Planning Guidance for the Health System Response to a Bioevent in the National Capital Region

September 2001

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EXECUTIVE SUMMARY

Background. A major principle of emergency preparedness requires the leadership of all levels of government under vested authority to plan for the efficient coordination and management of the resources necessary to reduce the consequences of a public safety emergency on the local jurisdiction's residents and visitors. There is considerable potential for a bioevent to have a regional impact (see Introduction, page iv). Therefore, with the support of state, federal, and cooperative private organizations, local governments should be capable of those actions that will reduce public vulnerability and promote an efficient response to the incident through efficient coordination of resources across jurisdictional lines. For the purposes of this document, the term bioevent refers to a bioterrorist incident or a large-scale naturally occurring event such as pandemic influenza. This planning guidance for a bioevent was developed through the cooperative effort of many individuals representing key government and private elements within the national capital region (NCR) that would most likely be involved should such an event occur. This guidance is offered as a consensus approach to a challenging issue in order to promote inter- and intra-jurisdictional coordination while preserving the unique characteristics and operating procedures of each member jurisdiction.

The Metropolitan Washington Council of Governments (COG) contracted with the United States Public Health Service's Office of Emergency Preparedness to design a plan for a health system response to a bioterrorist attack in the NCR. The COG then contracted with the Battelle Team to perform the task. The scope of the task was expanded to include a response to pandemic influenza. The composition of the Battelle Team is reflected on the cover page. At the request of the COG community representatives, the term 'planning guidance' was substituted for 'plan'. Three overarching concepts are embodied in the planning guidance: operational issues – which are the purview of the local or state authorities, technical issues, and policy issues. The backgrounds of the COG, the NCR, and the various committees involved in the planning effort are discussed.

Goal and Objectives. The Metropolitan Washington Council of Governments, by reason of its planning process, will work to improve the capability of the jurisdictions within the national capital region to cooperatively manage the health consequences associated with a bioevent. This planning guidance is designed to facilitate the coordination of the medical actions that local, state, and federal government agencies and medical providers in the national capital region would take in responding to a bioevent. This guidance is intended to optimize the use of existing authorities, organizations, resources, systems, and programs in the national capital region and integrate these assets into a cohesive response capability. The goal of this effort is to strengthen the health care response systems, allowing them to meet the following objectives:

- Improve early recognition
- Provide prevention strategies including mass immunization/prophylaxis¹

¹ The original USPHS/OEP objectives were to 'provide mass immunization/prophylaxis'. The COG BTF members chose to revise this objective to 'provide prevention strategies including mass immunization/prophylaxis'.

- Provide mass care
- Provide respectful and safe disposition of the dead
- Provide for environmental surety

Organization. The document is divided into an introduction and five main sections:

- Response Outline
- Annexes
- Planning Considerations
- References
- Local Plans

Response Outline. The first section outlines the recommended response to a bioevent. Follow-on sections are organized around these recommendations, and consist of a list of actions designed for consideration by the member jurisdictions during the planning process.

Annexes. Each Annex is divided into three sub-sections:

- A description of the function covered.
- Point A, which provides information on current capability and applicable resources in the national capital region.
- Point B, which describes an enhanced response capability together with steps that may be taken to improve the existing response system and bring it to a higher level of preparedness.

The presence of a 'Point A or Point B' in the Annexes was a function of information availability and BTF guidance. Not all Annexes will contain both Point A and Point B and some Annexes will contain neither. However, the framework is provided for future expansion of the document.

Planning Considerations. This section provides lists of planning steps in checklist format for the individual jurisdictions to consider when further developing their own response plans. It is divided into various sub-sections: Incident Management/Logistics, Medical and Public Health Surveillance, Prevention Strategies including Mass Immunization and Prophylaxis, Mass Patient Care, Mass Fatality Management, and Environmental Surety. Obviously, planning must occur well in advance of a bioevent in order to operate successfully during an incident.

References. This section provides medical and scientific information pertaining to key biological agents, a reference section, a glossary of terms, and acknowledgements.

Local Plans. This section contains a list of local plans that were referenced in the development of the planning guidelines. A comparison chart is included, identifying the similarities and differences among the current response plans of the District of Columbia, State of Maryland, and Commonwealth of Virginia. Full text files of the plans were included in the compact disk version of this report.

This planning guidance is intended to be a living document. It is the effort of a multi-disciplinary, multi-agency steering committee - the Bioterrorism Task Force (BTF) - which will continue to meet on a regular basis to ensure that new technologies and innovations in the areas of bioterrorism preparedness and communicable disease control are considered and incorporated into this document. Plans developed from these guidelines must be regularly reviewed, exercised and revised in order to remain effective.

INTRODUCTION

The Metropolitan Washington Council of Governments (COG) is a regional organization of National Capital area local governments. It is comprised of seventeen local governments that surround our nation's capital, plus area members of the Maryland and Virginia legislatures, the U.S. Senate, and the U.S. House of Representatives.

COG was founded on April 11, 1957. According to the 2000 census figures, COG's membership covered a population base of 4,211,964 and 3,020 square miles. COG is an independent, nonprofit association supported by financial contributions from its participating local governments, federal and state grants and contracts, and donations from foundations and the private sector.

By supporting local, state, and federal planning, COG provides a forum for consensus building and policy-making while supporting the region as an expert information and major review resource. By virtue of its mission to enhance the quality of life in the metropolitan Washington area, COG has spearheaded the planning process necessary to create a health system response to a bioevent in the national capital region to coordinate and integrate existing resources.

The COG's mission is to serve as a high performance regional organization that applies best practices and cutting-edge technologies to regional issues. This makes the COG ideally suited to assist communities in planning for the integration and development of new and more advanced systems to effectively respond to acts of terrorism or naturally occurring diseases that threaten the health of citizens in the national capitol region.

The planning process has included identifying health resources in the community, understanding the governmental environment in the national capital region, and communicating the local agencies' capabilities, roles, and responsibilities. Through the efforts of the steering committee, the planning process facilitated the development of collaborative networks between the public health and emergency response communities, and the different support organizations at the state and national levels. Experience with naturally occurring bioevents has demonstrated the need for coordinated multi-jurisdictional response.

By addressing the challenges that a bioevent may present, the planning effort can strengthen the ability of public health agencies to perform routine tasks that affect daily medical care and public health activities. These efforts are essential in developing a more robust public health infrastructure and providing necessary resources to manage a dramatic increase in requirements: providing surveillance, engaging in epidemiological investigations, distributing medical and public health recommendations, distributing scarce resources, and communicating with hospitals, the public, and other local, state, and federal agencies. Investing in our public health system provides the best civil defense against bioevents.

The multi-disciplinary, multi-agency COG Bio-Defense Steering Committee (now the Bioterrorism Task Force) that was assembled to provide input and review for this purpose has representation from various subcommittees:

Health Officers Committee

This committee is comprised of health officers from the region's public health departments. The health officers typically are directors of the local jurisdictions' public health departments. They are responsible for maintaining the public health of their communities through the maintenance of services and programs in such areas as communicable disease control, food inspection, maternal and child health, school health, and environmental health concerns. This committee provides a forum for the exchange of information, ideas, and problems of mutual interest to the region and fosters a network for the transfer of innovative programs and ideas. It monitors public health trends from a regional perspective, mobilizes inter-jurisdictional approaches to address specific public health problems, and serves as the regional public health expert, providing recommendations to the region's elected officials. This body was responsible for creating the regional West Nile Virus Plan in CY 2000.

The Human Services & Public Safety Policy Committee

This committee assists the COG Board of Directors in addressing public safety problems at the regional level. Major activities include development of public safety recommendations, review of recommendations from the technical committees (Fire Chiefs, Police Chiefs, and Disaster and Emergency Preparedness), and review of public safety projects, proposals, and ideas that are regional in nature.

Fire Chiefs Committee

Fire/rescue planning is a function of this body, which comprises the top officials of the COG member jurisdictions' fire/rescue services. They provide technical analyses and policy recommendations on regional fire/rescue issues to the COG Human Services & Public Safety Policy Committee.

Police Chiefs Committee

Law enforcement planning coordination is accomplished through this body. It is comprised of the top police officials of the COG member jurisdictions. They provide technical analyses and policy recommendations on regional law enforcement issues to the COG Human Services & Public Safety Policy Committee.

Disaster and Emergency Preparedness Committee

This committee is comprised of the emergency services directors/coordinators of COG local governments and representatives from the State of Maryland and the Commonwealth of Virginia. The Disaster and Emergency Preparedness Committee is primarily concerned with emergency preparedness and planning and has developed plans and procedures for coping with many different types of disasters and emergencies on a regional basis.

Representatives of these committees attend the monthly meetings of the Bioterrorism Task Force. Additionally, the authors of this planning guidance briefed the various COG committees on a regular basis and solicited their input as the document evolved. The COG Chief Administrative Officers maintained full visibility of the project by being briefed on the project's progress.

The strength of the COG bioevent planning process is the opportunity for individuals from different agencies to interact in a planning forum that enables the coordination of efforts and responses before an event occurs.

SECTION I, RESPONSE OUTLINE

A. Detect Event

Event detection is dependent upon (a) state and local public health surveillance, and/or (b) notification from the public safety community (see Annex: Passive Surveillance). Regional coordination and sharing information among jurisdictions may be necessary for determining if an actual event has occurred based on information from individual or multiple incidents.

1. Unannounced. Detection of an unannounced event may be determined through several pathways such as:
 - An irregularity in one or more key local indicators during passive medical and public health surveillance.
 - A report of an unusual disease or occurrence.
 - A suspicious increase in the number of people reporting common illnesses, syndromes and symptoms.
 - A report through the mandatory disease reporting systems.
 - Other sentinel surveillance systems such as EMS, or veterinarians.
 - An event may be detected at the local health care provider level, the local health department, the state public health departments, and/or the Centers for Disease Control and Prevention (CDC). The NCR planning guide recommends that each member jurisdiction's public health department notify the public health departments of the other members when reporting key local indicators. To facilitate this, the COG Health Officers Committee currently maintains an updated point of contact (POC) list for all area health officers.
2. Announced. For an announced event to trigger a response it must be judged "credible" by the appropriate local, state, or federal agencies.

Medical surveillance should operate continuously and provide non-specific detection of medical activities above established baselines in order to improve the chances of detecting unusual medical events sooner rather than later. Traditional surveillance systems rely on diagnosis-based reporting. In order to initiate an early rapid response, it may be necessary to include other types of surveillance methods: i.e. syndromic surveillance. Specific activities, i.e., volume of 911 calls, categorized EMS runs, or unusual deaths, as well as other "non-traditional" events may be sensitive indicators early on in a bioevent. Once the monitored values pass a trigger threshold, this activity must be reported to an individual within the jurisdiction's public health department or equivalent agency for action. In order to more rapidly detect an event with potential regional consequences, an enhanced system of surveillance across the region should be a goal.

B. Assess Event

Upon notification of a likely event, the public health departments in the affected areas should commence analyzing data in conjunction with other local and state health departments (see Annex: Active Surveillance) to accomplish the following tasks:

- Verify that the report is valid.
- Determine if the event is, in fact, suspicious.
- Assist in determining subsequent courses of action (see Annex: Diagnosis).

Upon detection of an event, and at the request of the appropriate officials, the COG will be available to assist with such functions as:

- Coordinating communications: videoconferences and teleconferences.
- Assisting with the access to subject matter expertise.
- Providing support staff.

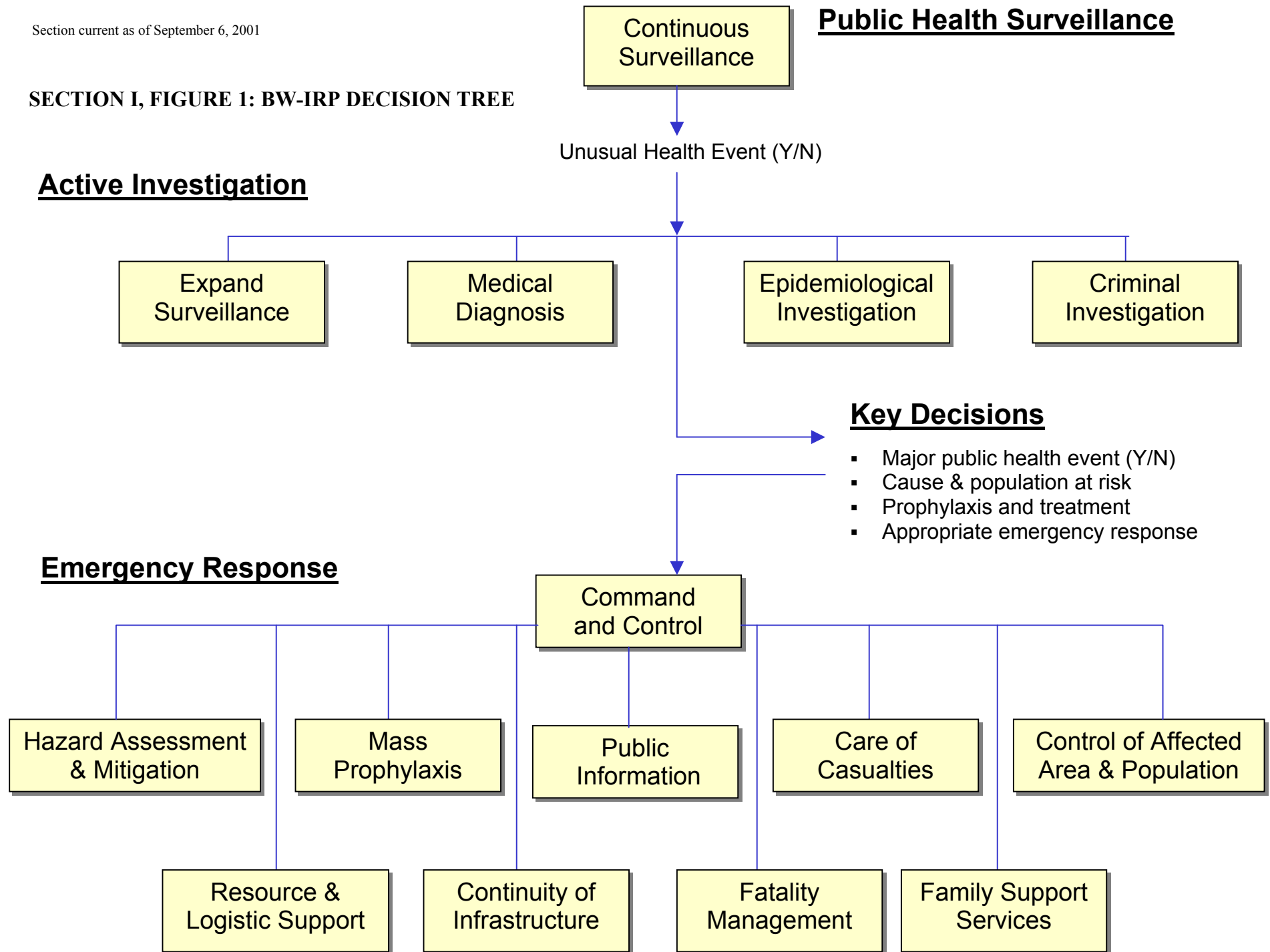
C. Determine the Course of Action

1. After the event has been assessed, recommendations for a course of action can be made. These recommendations are then conveyed to the jurisdictions of the national capital region.
2. Decision Tree². The following response template and decision trees (Figures 1–5) were published in August 1999 and updated in November 2000 by the Biological Weapons Improved Response Program (BW-IRP), U.S. Army Soldier and Biological Chemical Command (SBCCOM). This material is used by permission from SBCCOM. The underlying assumption for the decision tree is that the local jurisdiction maintains a functional medical surveillance program. In order to implement a regional response, a system for sharing surveillance data across the region is necessary.

² Editorial Comment: Full text of the 1999 Decision Tree Report is available on the SBCCOM website, www2.sbccom.army.mil/hld/, under 'Products and Services'. The updated version of the report is in the review process, and will be published on the SBCCOM website once it has been approved for public release.

Public Health Surveillance

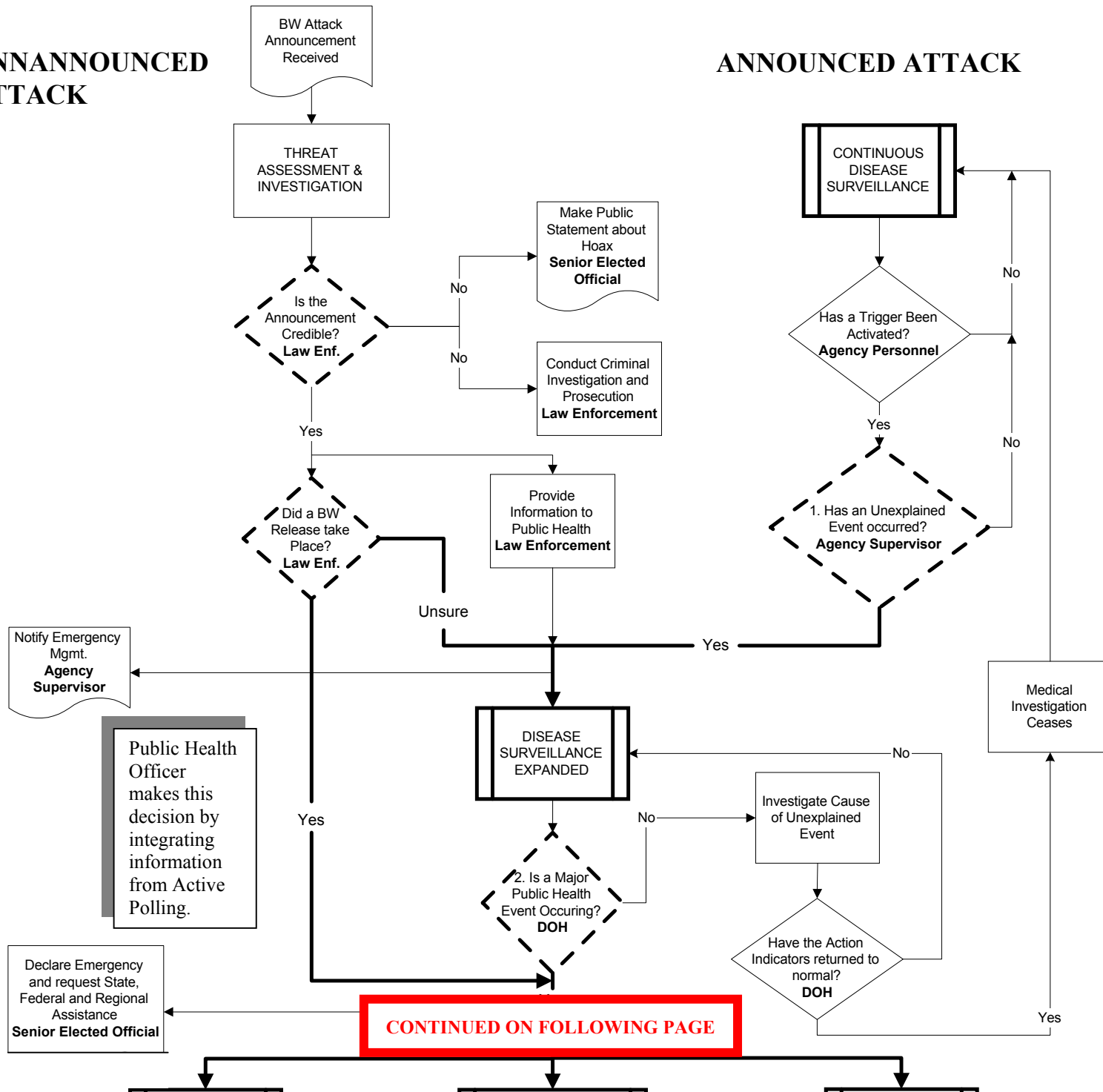
SECTION I, FIGURE 1: BW-IRP DECISION TREE



SECTION I, FIGURE 2: BW RESPONSE DECISION TREE

UNNANNOUNCED ATTACK

ANNOUNCED ATTACK



CONTINUED ON FOLLOWING PAGE

Assume a continuous Medical Surveillance program is operating and providing real-time information to appropriate Personnel.

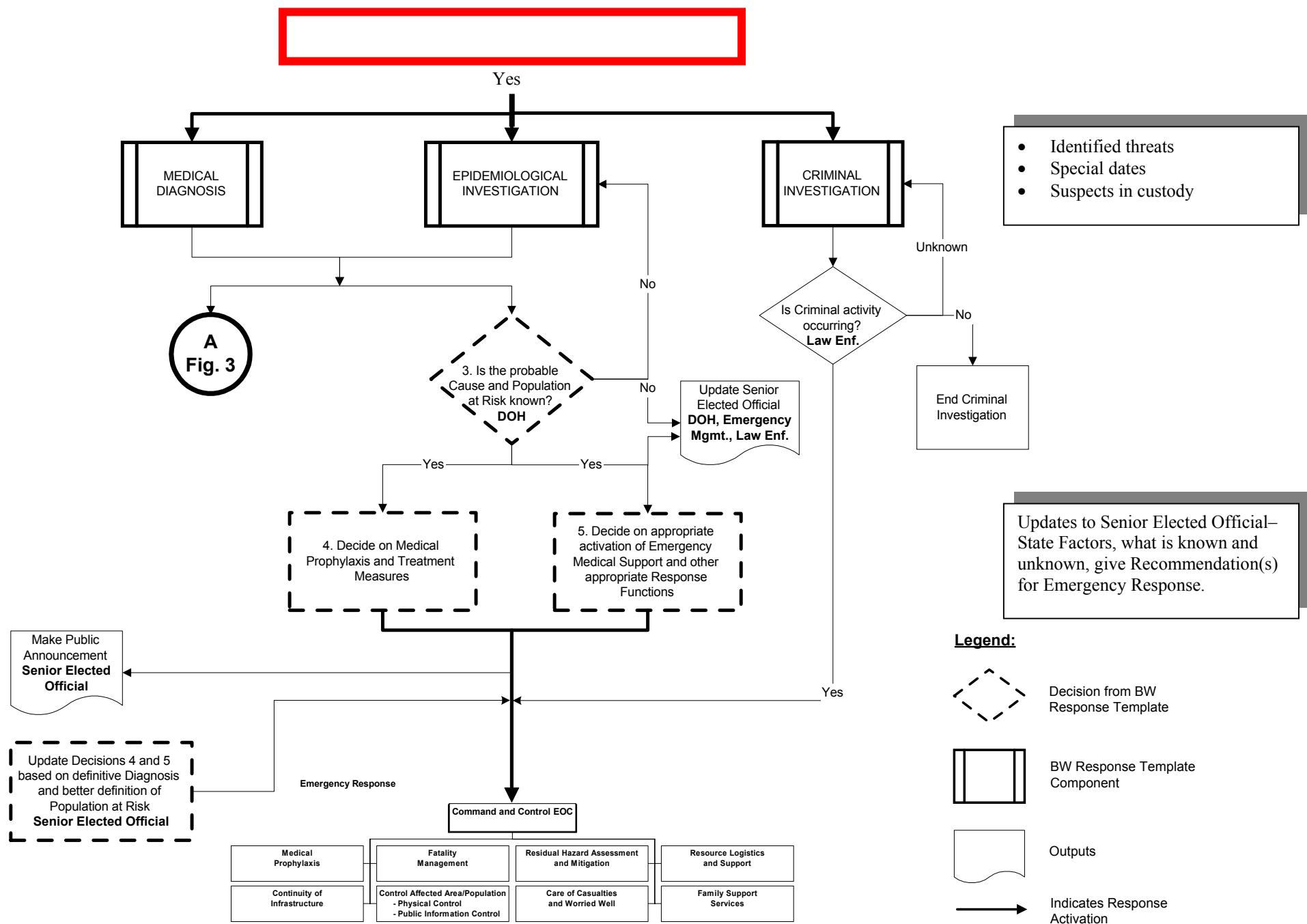
Examples of Monitored Data:

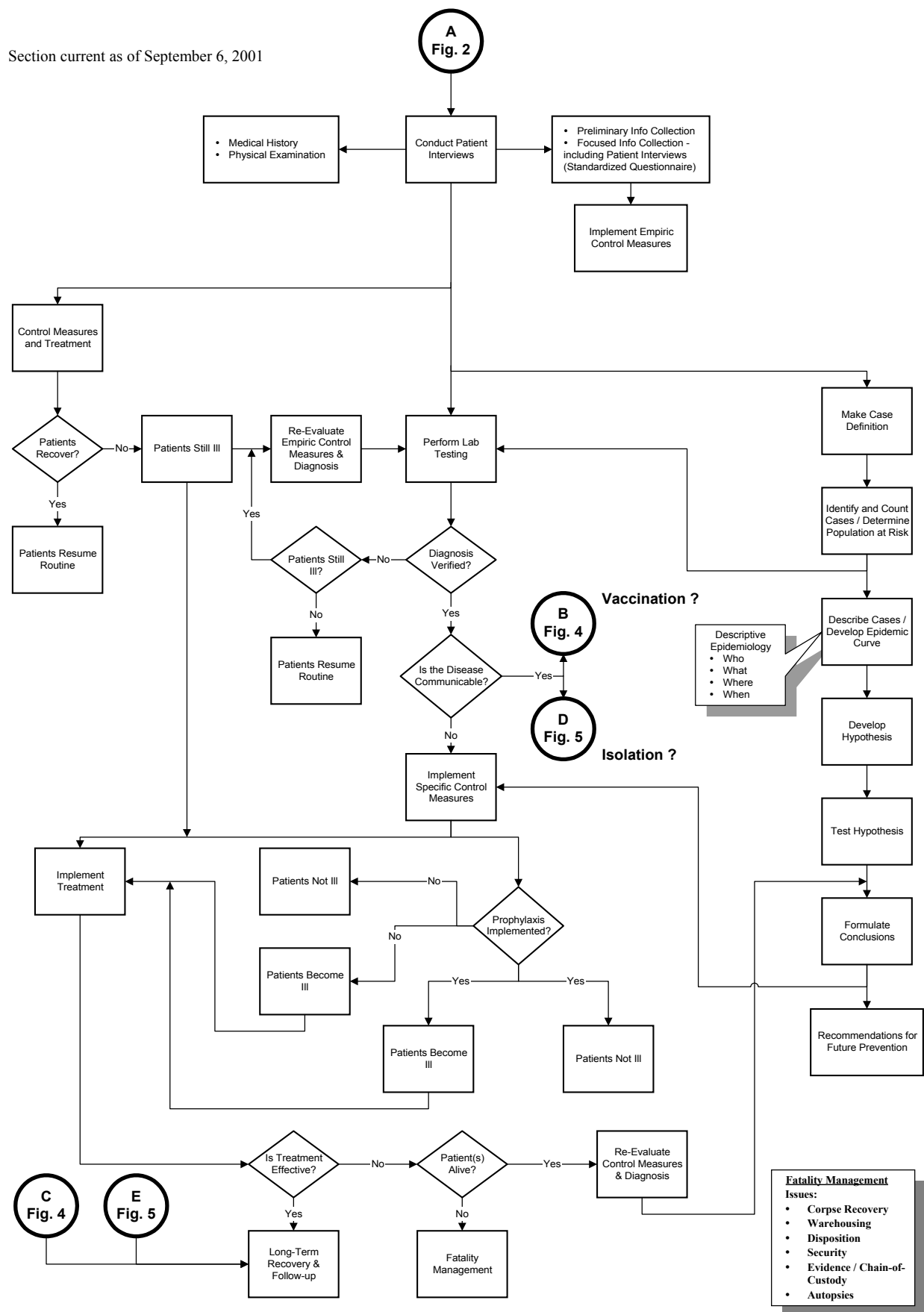
- 911 Calls
- Categorized EMS Runs
- Number of Deaths, particularly Unusual Deaths

Quick Intradepartmental investigation to see if there is a known cause for the Unusual Activity, i.e., major transportation accident or natural disaster.

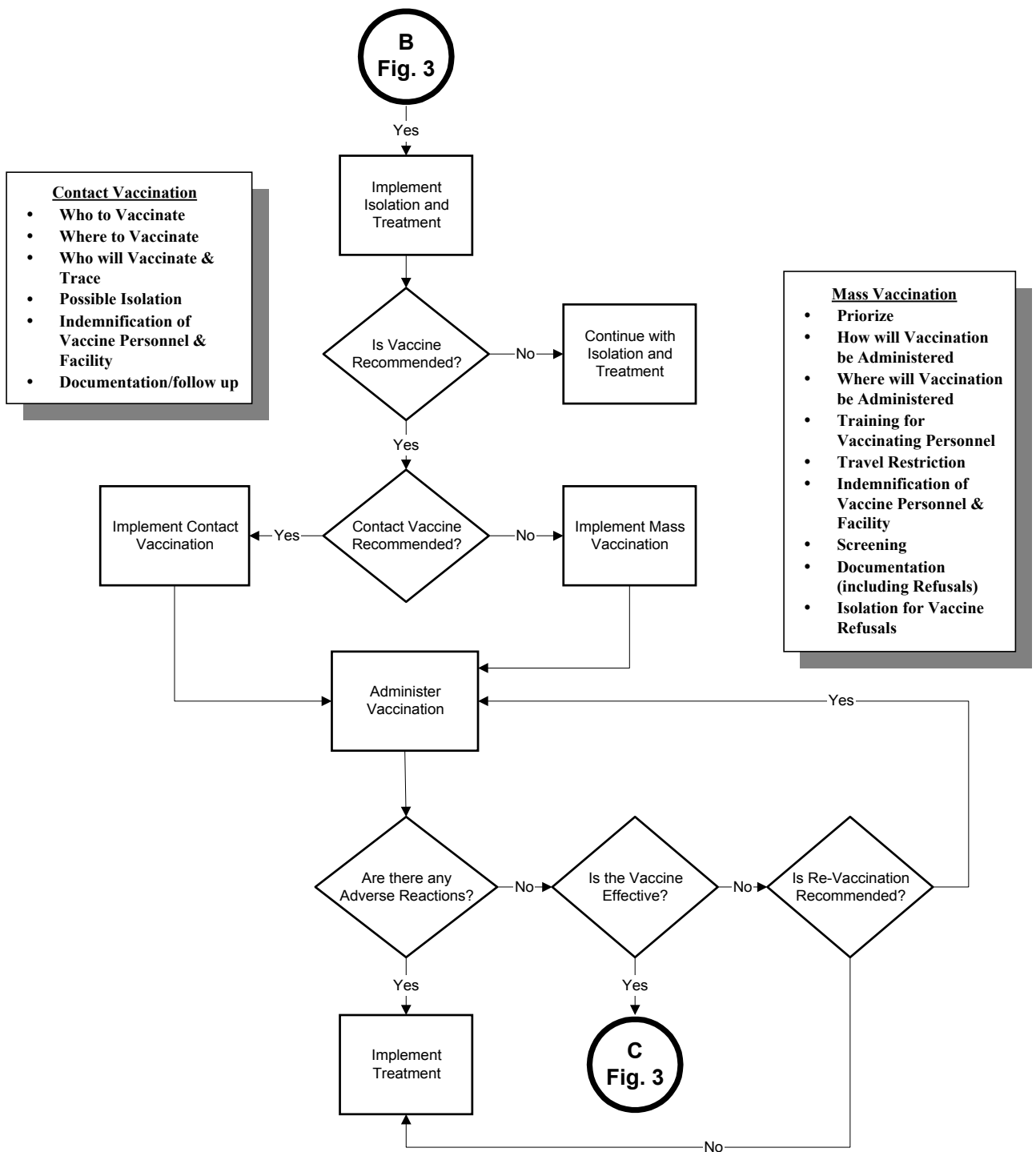
Begin Active Polling by Public Health Office of Hospital Emergency Rooms, Poison Control Centers, Morgues, and other local Health Offices, Police, and Fire.

Consider Activation of the Emergency Operations Center (EOC).

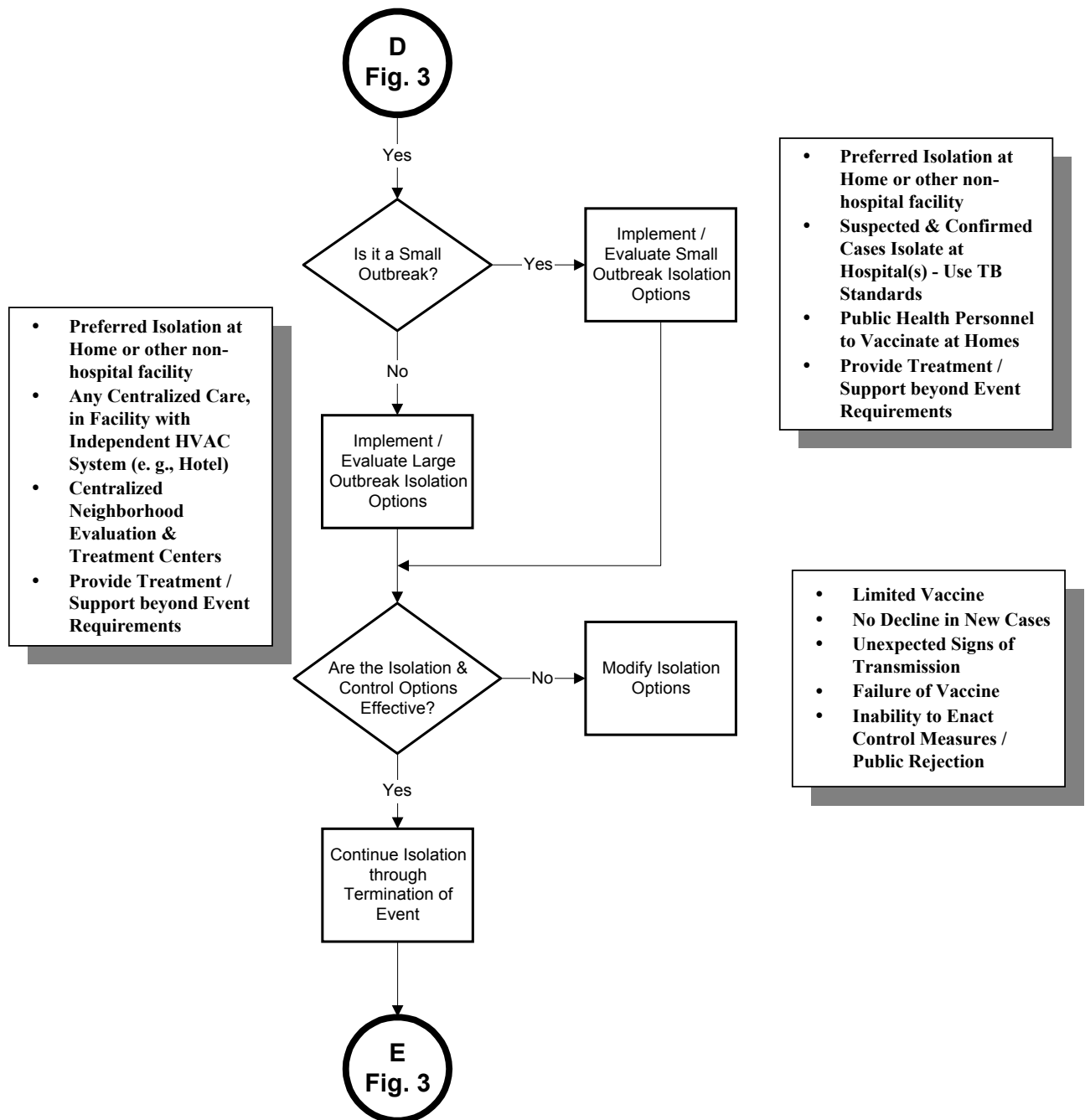




SECTION I, FIGURE 3: MEDICAL/PUBLIC HEALTH DECISION TREE –EPIDEMIOLOGICAL INVESTIGATION



SECTION I, FIGURE 4: VACCINATION DECISION TREE



SECTION I, FIGURE 5: ISOLATION DECISION TREE

D. Respond to Emergency

1. Prevention Strategies:

- **Prophylaxis and Immunization.** It is imperative that the jurisdictions develop plans for mass prophylaxis/immunization procedures (see Annex: Medical Prophylaxis).
 - a. Based on technical recommendations, local hospitals, neighborhood health clinics, and urgent care centers (either freestanding or hospital-based) should execute their in-house strategies once the decision to initiate mass prophylaxis is made.
 - b. Pharmaceuticals should initially be distributed through existing medical institutions. In under-served or heavily populated areas, alternative methods to distribute medications may have to be used.
- **Control of Communicable Diseases.** Based on the transmission characteristics of the disease agent involved, planning may require provisions to limit public events and activities, or to minimize exposure through restrictions on travel or imposing restrictions at transportation hubs. Such changes will require interjurisdictional cooperative agreements and may require specific legislation.

2. Mass Patient Care. It is recommended that mass patient care operations be initiated as necessary (see Annex: Mass Patient Care).

- Individual jurisdictions, at the direction of their emergency operations centers, should put into effect their existing plans to deal with mass casualties. As the number of patients rises and begins to overwhelm the ability of the local medical institutions to deliver care, the local Emergency Management Agency (EMA), in concert with the local health department, should implement applicable phases of the Medical Response Expansion Program (MREP) (see Annex: Medical Response Expansion Program). This may include Alternative Medical Centers (AMCs), in addition to Outpatient Treatment Centers (OPTCs). Planning must include resources such as physical plant, personnel, equipment, etc. Cooperative agreements with outreach health care facilities should be established prior to any event. Personnel issues such as availability, training, credentialing, etc. must be planned for and appropriate regulations promulgated if necessary. Jurisdictional boundary issues will require cooperative agreements between member jurisdictions of COG.
- EMS resources should be mobilized in compliance with the EMS portion of the plan. EMS resources may consist of cross-trained personnel for utilization in the accessory health treatment facilities, transporting patients, etc. (see Annex: Resourcing EMS Capabilities).
- The hospital response plan should be implemented. Planning includes agreements to make every attempt to discharge stable patients and transfer suitable non-*bioevent* patients to other comparable outlying facilities in order to make bed space available for critically ill victims (see Annex: Hospital Plan).

- The Health and Medical EOC should serve as the medical command and control element (see Annex: ESF-8 Operations Plan).
 - The existing Hospital Mutual Aid Radio System (HMARS), the Capital Wireless Integrated Network (CAPWIN), and the Washington Area Warning System (WAWS) of the National Alert Warning System, together with other communications resources in the District of Columbia, Maryland and Virginia, should assist with coordinating communications between the various agencies as appropriate. Additional resources that can be called upon are Radio Emergency Associate Communications Teams (REACT) and the Radio Amateur Civil Emergency Services (RACES). Their personnel may be positioned at each hospital, OPTC, and AMC to help facilitate communications among and between hospitals, OPTCs, AMCs, and the EOC by telephone, fax, and email whenever possible.
3. Mass Fatality Management. It is recommended that the individual jurisdictions initiate their mass fatality management plans as necessary (see Annex: Mass Fatality Management Implementation).
 4. Environmental Surety. Technical advisors, in conjunction with the appropriate state agencies, should issue guidance for the specific steps required for re-entry (see Annex: Agent Surety). It is recommended that the jurisdictions initiate the following environmental surety operations as necessary:
 - Perform environmental sampling to determine the extent and level of contamination.
 - Examine any animals found in the area of the incident for disease.
 - Identify, log, and dispose of all dead animal carcasses.
 - Establish measures to control vectors.
 - Limit access to, or decontaminate heavily contaminated areas as appropriate.
 - Identify and assess buildings used to house or treat infected persons.
 - Initiate a public information program to inform residents of the presence of any residual dangers and protective measures, as dictated by the incident.

E. Conduct Public Notifications

All jurisdictions should coordinate media inquiries through a regional Joint Information Center (JIC) so that the communications reflect a unified governmental leadership. Planning should have identified and formalized relationships between the different information centers that should be in place at the local, state, and federal levels. This is an important facet of reflecting a uniform decision-making process and disseminating of a uniform message to the citizens of the national capital region.

In any interaction with the media, the goal is to ensure that information is accurate, timely, and consistent.

F. End Event

Based on the continued monitoring of the situation, the governmental leadership, under advisement of the technical and operational bodies, will determine when the emergency has ended.

SECTION II, ANNEXES

Annexes. Each Annex is divided into three sub-sections:

- Description: A description of the function covered in the Annex.
- Point A: Information on current capability and applicable resources in the national capital region.
- Point B: A description of an enhanced response capability with suggestions to bring the existing system to the higher level of preparedness.

The presence of a 'Point A or Point B' in the Annexes was a function of information availability and BTF guidance. Not all Annexes will contain both Point A and Point B and some Annexes will contain neither. However, the framework is provided for future expansion of the document.

A. Annex: Passive Surveillance

Description:

Passive surveillance is the ongoing monitoring of certain pre-defined medical and public health criteria. Most current surveillance systems are based on laboratory-confirmed diagnoses. Syndromic surveillance for infectious disease also may be a sensitive tool for the early detection of infectious diseases. Key persons and entities that may be involved in passive surveillance, and the signs that might indicate a bioevent in each respective domain, are provided below:

Health care providers. This category includes but is not limited to: hospitals, primary care practitioners, public health, infectious disease physicians, infection control personnel, nursing homes, municipal employee health services, school health, morticians, and emergency medical services personnel. Potential indicators of a bioevent include: Unusual or exotic diseases, fevers of undetermined origin, unexpected increases in service demand or encounters with patients presenting with any of the reportable diseases of Maryland, Virginia, or D.C. and illnesses presenting with an influenza-like syndrome (ILS) above normally recognized seasonal averages. The CDC A-list may provide a more extensive group of agents to address.

Many other pathogens and toxins exist that are on the NCR Departments of Public Health lists of reportable diseases. Some of these pathogens have the potential to be employed as bioterrorism agents. Reporting of these diseases should therefore continue. [See the section on local plans for the reportable diseases for the District of Columbia, Commonwealth of Virginia, and State of Maryland.]

Veterinary Clinics. Foreign animal diseases or emerging animal diseases (including those that are zoonotic.) Unusual rises in animal infectious disease encounters and unexplained animal deaths (especially those that occur in clusters). Definition for clusters is the presence of two or more cases (CDC).

Animal Control Agencies. Encounters with animals demonstrating foreign animal diseases or emerging animal diseases (including those that are zoonotic.) Unusual rises in animal infectious disease encounters and unexplained animal deaths (especially those that occur in clusters).

Office of Chief Medical Examiners (OCMES). This category includes but is not limited to deaths thought to be due to unusual or exotic diseases, diseases that present with ILS, specific zoonotic diseases, or those that are associated with a bioevent, higher than normal numbers of deaths, especially when the deaths appear to have occurred as a result of an unusual or exotic disease and/or occur in clusters a cluster of ILS deaths, or ILS deaths that are above seasonal averages and/or a number of non-traumatic deaths recorded and/or accepted for postmortem examination that is unusually higher than daily averages.

Pharmacies. Unusual rises in the purchase of antiviral, antibiotic, and anti-diarrheal medications, both prescription and over-the-counter (OTC), may signal an emerging health crisis, including outbreaks of bacterial or viral illness as well as toxin-based illness such as staphylococcal enterotoxin B. Indicators include: unusual spikes or clusters of prescriptions or OTC sales over baseline levels.

POINT A – Current Resources

1. Electronic Surveillance System for the Early Notification of Community-Based Epidemics (ESSENCE) --- (Courtesy MAJ Julie Pavlin, MD, MPH; Chief, Strategic Surveillance, DoD, Global Emerging Infections System (GEIS), Walter Reed Army Institute of Research (WRAIR).

The Department of Defense – Global Emerging Infections System (DoD-GEIS) has developed a prototype system for early detection of infectious disease outbreaks at military treatment facilities (MTFs). Surveillance of syndromes recorded at the time of patient visit instead of specific diagnoses reported after laboratory or other diagnostic procedures can greatly lessen the time it takes to determine that an outbreak is occurring.

DoD-GEIS is currently collaborating with the COG Health Officers Committee and academic institutions to share data and to incorporate civilian emergency room data and managed care data into ESSENCE. The three years of historical data compiled by DoD-GEIS since its inception in 1997 provides an invaluable tool to the national capital region, which does not have its own database from which to establish a baseline and subsequent aberrance. With a population of more than 600,000 military personnel, dependents, and retirees in the area ESSENCE represents an excellent cross-section of the population.

2. Metropolitan Washington Public Health Assessment Center (MWPHAC)

The MWPHAC was established jointly by the School of Public Health and Health Services of The George Washington University, the Metropolitan Washington Public Health Association, the District of Columbia Department of Health, the Maryland Department of Health and Mental Hygiene, the Virginia Department of Health, and the Health Officers Committee of the Metropolitan Washington Council of Governments (COG). Its goal is to improve the health of the population of the national capital region through better information-sharing by developing and maintaining a regional system of communication, analysis, and reporting on health promotion and disease prevention goals and activities, and on the incidence of communicable and epidemic disease in the region with the local health departments, and the District of Columbia, State of Maryland, and Commonwealth of Virginia Health Departments.

B. Annex: Detection

Description:

In an unannounced bioterrorism incident, detection occurs when irregularities in one or more key local indicators present during passive medical and public health surveillance :

- Unexplained Deaths
 - Meningitis, encephalitis, acute encephalopathy, or acute delirium
 - Unexplained paralysis/paresis, or other neurologic symptoms of rapidly progressive onset including ptosis, diplopia, dysphagia, or seizures
 - Rash or other skin/mucosal lesions with a history of fever
 - History of fever and respiratory disease to include one or all of the following: dyspnea, tachypnea, hypoxia, abnormal chest x-ray
 - Shock or sepsis syndrome with history of fever or hypothermia
 - Diarrheal illness with fever
-
- **EMS.** Large overall demands for emergency medical service (EMS), particularly those patients complaining of influenza-like syndrome (ILS) or respiratory syndrome (including asthma, ILS-associated respiratory syndrome, other possible causes of respiratory syndrome).
 - **Hospitals or private practitioners.** Increased overall hospital admissions, emergency department activity, admissions of patients complaining of ILS or respiratory syndrome, intensive care unit (ICU) admissions. Unusual illness in a selected population (e.g., outbreak of severe rash illness affecting adults). Higher morbidity associated with a common disease or syndrome, or failure to respond to usual therapy. Single case of a disease caused by an uncommon agent (e.g., smallpox, viral hemorrhagic fever, or pulmonary or cutaneous anthrax). Endemic disease with unexplained increased incidence (e.g., tularemia, plague).
 - **Medical examiners.** Overall deaths reported from medical examiner, deaths accepted for investigation/post mortem, deaths associated with ILS, or deaths determined to be unusual. Higher mortality associated with a common disease.
 - **School health programs.** Encounters of ILS, respiratory illness, or an increase in numbers of absentees above an established baseline.
 - **Select government agency employee health services.** Observation of unexplained increase in people seeking help or presenting with unusual illnesses.

C. Annex: Active Surveillance and Investigation

Description:

When a public health surveillance program identifies an aberration (an excursion that is statistically above the expected value), local health departments, in concert with their respective state health departments, should conduct preliminary investigations. When an aberration occurs, the health department should expand its observational activities and poll emergency departments, pediatricians, family physicians, internists, and other infection-control practitioners to ascertain the context and possible cause of the non-specific indicators.

When an aberrant community health problem is confirmed and no specific cause for the increased patient load is ascertained, the local health department should begin an active investigation.

Possible data to collect during active surveillance should include hospital admission sheet data, travel history, symptoms, EMS runs and transportation refusals, and identification of contacts and family members. Once it is determined that a full epidemiological investigation is needed, the health departments of the affected areas should initiate an epidemiological investigation that is based on analysis of preliminary data, or analysis of other information pointing to a possible bioevent. If bioterrorism is suspected, local law enforcement authorities and the Federal Bureau of Investigation shall also be notified.

An epidemiological investigation will establish the case definition, interview victims and physicians, track distribution of cases, define the population at risk, and begin to make recommendations regarding mitigation. .

According to the CDC, the critical path to determining the use of a biological agent should include six primary steps:

- **Identifying an outbreak.** Examining public health surveillance data, population at risk, and signs and symptoms.
- **Verifying the diagnosis.** Examining signs and symptoms and laboratory diagnosis.
- **Establishing a case definition.** Beginning with simple objective criteria, starting broadly and focusing narrowly later. Determining whether individuals identified thus far meet the definition.
- **Identifying and counting cases.** Determining whom else is involved and who could potentially be involved considering incubation and possible exposure.
- **Describing epidemiology.** Collecting demographics, including names, ages, sexes, workplaces, and residences; determining time of illness onset and of potential exposure; and tracing the outbreak curve.
- **Developing a hypothesis.** Explaining how and why the outbreak occurred, the point of dissemination, the mode of spread, why some individuals became ill and not others, whether the outbreak poses an environmental hazard, and the population at risk. Consider early control measures.

D. Annex: Diagnosis

Description:

Although a preliminary diagnosis may be made locally, public health officials should send biological samples through their chain of custody to the state specialty laboratory and the Centers for Disease Control and Prevention (CDC) for final confirmation. Veterinary diagnosis also should be obtained in cases where animals are diseased or act as vectors or hosts for vectors.

Appropriate biological samples (i.e., sputum, blood, or urine) should be taken for laboratory identification, and these samples should be sent through appropriate channels to a designated local laboratory that has the ability to identify bioterrorism agents.

When a patient is diagnosed with such a disease, or when a laboratory makes a presumptive identification of any of these agents, the public health department should be contacted to initiate an epidemiological investigation and aid in determining the scope of the event. A formal protocol should be in place to ensure that appropriate agencies are notified promptly.

E. Annex: Medical Prophylaxis

Description:

Medical prophylaxis is the distribution and medical application of appropriate antibiotics, vaccines, and other medications to prevent disease and death in exposed victims. Preventive medicine, in the form of prophylaxis, is the most effective treatment available in a bioevent. Preventing illness eliminates the need for acute care and forestalls the possibility of communicating the illness to others. Medical prophylaxis is effective for only some of the biological agents.

During a declared emergency relating to a bioevent, the Public Health Departments in concert with the Emergency Management Agencies should assess the need to activate the first phase of a mass care strategy, which focuses on medical prophylaxis of a fixed population. Area hospitals, neighborhood health clinics, urgent care centers, employee health centers, private medical doctors, and the Red Cross may become the primary sites for medication distribution. These facilities should coordinate their effort and begin functioning as a unified body.

The speed with which a medical prophylaxis program can be implemented effectively is critical to the success of the program. Application of medical prophylaxis traditionally required identification of the population at risk, which may not be simple in an intentional bioevent. Consequently, prophylaxis may be applied to a much greater number of people than those actually exposed to the agent, perhaps even to an entire area population.

The National Pharmaceutical Stockpile (NPS), which is discussed in more detail under Point A - Current Resources later in this Annex, requires planning at the state and local levels for these items:

- Receipt and security of materiel
- Distribution of materiel from airport
- Storage, packaging and handling of materiel
- Treatment protocols
- Interagency communications
- Dispensing protocols

Prophylaxis decisions in a resource-scarce environment and under disaster conditions can be very difficult. Therefore planning can provide protocols that are medically grounded and help to preserve human infrastructure and the public's health. In order to ensure maintenance of essential community services, the NCR should make every effort to protect its "human infrastructure." EMS personnel, law enforcement, utility and transportation workers, hospital workers, and their families are a high priority for prophylaxis. This is necessary to allow critical responders to remain healthy and, by ensuring their families' safety, maintain their willingness to report for work.

Two options for prophylaxis/immunization may be simultaneously followed. Mass prophylaxis centers (fixed and mobile), with pre-designated sites ensuring appropriate access to all individuals requiring prophylaxis within a specified geographical location, should be the primary means of dispensing, while a system of home delivery will accommodate those unable to travel to the POD. Quickly implementing these additional distribution sites will help prevent existing clinics from becoming overwhelmed.

Other special considerations of medication distribution sites include:

- **Minors.** Each state in the NCR should pre-determine if parental permission is required to dose children, or if they should seek a waiver because of the state of emergency.
- **Physical Plant.** Establishment of points of dispensing needs to take into account weather elements, shelter and security.
- **Mobile dispensing vehicles.** These vehicles (commuter buses, school buses, etc.) can be dispatched to retirement communities, group homes, extended care facilities, and homes of individuals with special needs, including homebound individuals. EMA, local health departments, home-care provider agencies, hospitals, 911 centers and other city human service agencies, should identify these groups of individuals.
- **Schools/commercial facilities.** Schools, businesses (more than 100 employees), and large office buildings (including government offices) may be used to dispense medications.
- **High-rise residential units.** A supply of medications can be dispensed directly to high-rise residential complexes to be dispensed to their residents.
- **Neighborhood canvassing.** The services of police, fire, EMS, National Guard, military (both active and reserve components), community health personnel, and volunteers may be called upon to assist allocating medication to ensure rapid distribution of prophylaxis. In the event of a communicable disease such as smallpox, adequate protective measures must be provided to participating personnel.
- **Non-domiciled outreach.** The homeless population in the city may be provided medication and information packets through a coordinated effort that is spearheaded by the health departments and departments of social services. Organizations who regularly deal with this segment of the population should be enlisted to help in this effort.

The personnel needed to provide immunization and medication prophylaxis may be drawn from existing staff at the primary dispensing points (i.e., hospitals, neighborhood health centers, and freestanding urgent care centers). However, if the health care system is already overwhelmed, auxiliary personnel to staff these and other designated POD (including door-to-door care) could be recruited from the following sources: American Red Cross volunteers, emergency medical technicians (EMTs), National Guard and Reservists, retired physicians, nurses, dentists, and veterinarians. Personnel also should be recruited from these other sources: medical, dental, nursing, veterinary, physician-assistant, and public health students; home healthcare agencies; public health departments; religious organizations (i.e., churches, synagogues, etc.); and state and

federal supporting agencies. Once again, it will be necessary to plan these arrangements and ensure that designated individuals are aware of their roles in this process and plans conform to health standards.

All participating volunteers will need to be credentialed by a simple application process and should receive an information and tool packet that includes such items as an identification card, HEPA filter masks, surgical gloves, and a Standard Operating Procedure (SOP) that is simple to read and understand.

This plan should include such items as pre-packaging of medications, and multilingual information pamphlets.

It is recommended that a public information system be established to include frequent press releases via printed and television media, and an internet-based web application be utilized to release timely information and locations of OPTCs. The web site should include an OPTC/AMC locator into which the public can enter street addresses and cities. The application will then cross-reference the address against a database of OPTC/AMC sites and provide the closest location of a POD. The application also can be expanded to include a graphical map display as well as transportation directions or instructions relative to a specific address.

A 24-hour hotline for use by the public to acquire up-to-the-minute information and to determine the location of their closest OPTC is recommended. Press releases should clearly state that those members of the public who do not have Internet access should call this toll-free number. Operators of the phone lines should have direct access to the identical web-based database at their workstations. However, those who do have Internet access will be encouraged to use the web interface to reduce telephone traffic.

In addition an informational resource should be established for access by health care providers to communicate provider specific information and updates. This can be by website, broadcast faxes, etc.

All avenues of communication with the public, including press releases, Internet, and telephone hotlines, should have multilingual capability, and TTY capability should also be available at the 24-hour hotline center, with trained operators on duty at all times.

POINT A – CURRENT RESOURCES

1. National Pharmaceutical Stockpile (NPS)

The role of the CDC's NPS is to maintain a repository of life-saving pharmaceuticals and medical materiel for delivery to communities experiencing a chemical or biological incident in order to reduce morbidity and mortality in civilian populations.

The stockpile comprises a two-tiered approach:

12-hour "Push Packages"

These can reach disaster sites within 12 hours of federal activation and are pre-positioned at eight different sites across the U.S. Each pre-configured packet consists of pharmaceuticals, intravenous and airway supplies, emergency medications, bandages and dressings, and is intended to supplement local assets. Additionally, pertinent patient information sheets, provider information sheets, and data collection sheets are included.

Vendor Managed Inventory (VMI) Packages

These packages will provide more tailored materiel, based on the suspected or confirmed agent, to the scene within 24 to 36 hours. This is made possible by a partnership between the CDC and the Department of Veterans' Affairs, which has contracted with vendors and manufacturers to stock these additional pharmaceuticals and supplies.

The NPS is working on a state planning guide for receiving, organizing, repackaging and distributing the NPS. It is presently in draft form and will be made available to the NCR when completed.

2. The Capital Area Crisis Response Team (CACRT) and National Organization for Victim Assistance (NOVA)

The CACRT is a private, nonprofit organization of volunteer crisis interveners, educators, victim assistance specialists, and allied professionals who meet the emotional needs of traumatized victims of disasters and crime. CACRT rapidly mobilizes community response teams following a disaster and provides on-scene services at no cost. The crisis intervention strategies are based on a widely accepted model of crisis response developed by NOVA.

NOVA's mission is to promote rights and services for victims of crime and crisis and, through its National Community Crisis Response Team Project, it has sent trained professionals to over 80 communities that have been traumatized by a catastrophe, such as Hurricane Andrew and the Oklahoma City bombing, Bosnia, Croatia, and earthquake-stricken Kobe, Japan.

A bioevent will result in many concerned and panicked citizens who will be vying for a limited supply of resources. Mental health professionals from organizations such as CACRT and NOVA will be extremely useful in attempting to diffuse some of the anger and confusion that are inevitable in time of crisis.

POINT B – FUTURE ENHANCEMENT

The U.S. Postal Service may be asked to deliver medication and instruction packets to affected areas. The role of neighborhood canvassing will increase in the event that the biological agent is highly contagious and individuals are instructed to remain at home to prevent person to person spread. It will be necessary for the NCR to consider developing a MOA agreement with the U.S. Postal Service.

F. Annex: Medical Response Expansion Program (MREP)

Description:

Successful management of a large scale bioevent will depend on a number of assumptions:

- A large-scale bioevent may produce thousands to hundreds of thousands of casualties and/or fatalities.
- During a bioevent, actual infected casualties, together with those who may potentially have been exposed, will overwhelm EMS, outpatient clinics, and hospitals. Current bed capacities are shown under current resources.
- Hospital resources should be redirected to care for the most seriously ill. Elective admissions should temporarily cease, while critical medical/surgical and 911 functions will continue.
- A simple system that rapidly integrates medical resources and provides massive casualty management will be needed.
- Establishing a system to quickly expand outpatient and inpatient acute care facilities is necessary to provide rapid treatment to a large population of severely ill bioevent patients.
- During a large-scale bioevent, the standard of care will need to accommodate all affected people. In a mass casualty situation, health care workers will provide care to as many victims as possible, but individualized treatment plans may be rare or non-existent. A de-centralized team approach to providing basic medical care may be the most effective use of resources. Advanced life-saving technology and treatment options will either not be available, or they will be unable to be implemented due to lack of specially trained medical personnel.

Implementation of a mass patient care management plan may involve the following:

- The NCR emergency management agencies, together with the regional hospital associations and public health departments, should be responsible for establishing, maintaining, and overseeing the NCR operation of the casualty collection points. Outpatient Treatment Centers, and Alternative Medical Centers. This includes credentialing of personnel, in concert with sponsoring hospitals.
- The District of Columbia is in the process of pre-identifying casualty collection points in all sectors of the District that can be activated as requested through EMA. These pre-designated sites exist in other cities (e.g., Baltimore), and it is recommended that this step be included as part of the pre-planning process by all COG jurisdictions.
- The use of hotels, schools, etc. may be considered as alternative care facilities, but Memoranda of Agreement or contingency contractual agreements must first be developed before these become viable options.

- The expanded inpatient facilities (Alternative Medical Centers) will be most efficient if their services are directed exclusively to victims of the bioevent. Bioevent victims who also require acute or critical medical treatment of urgent conditions, such as heart attack or traumatic injuries, should receive care at the existing medical facility where more diverse resources are available.
- The type of agent used and the resulting illness will determine the composition of the Alternative Medical Center (AMC). The number of casualties expected to survive versus the anticipated number of fatalities will dictate the allocation of medical staff.
- Assuming bed space is available, the AMC should be an extension of a nearby medical facility (hospital) and transparent to the public. Ideally, the general public would seek initial care from either the Outpatient Treatment Center (OPTC) or the Emergency Department (ED) of their local hospital.
- If the former is not possible, then the OPTC and AMC will function more efficiently and will require less dedicated specialized resources if they are located adjacent or very close to the hospital(s) in the affected region.
- Medical and support personnel, as well as supplies required to establish and sustain the AMC, together with some facets of the OPTC, will need to be drawn from both local and outside resources. (Supplies should be cached as part of planning and as these dwindle, outside resources should be requested.) Requirements should be identified through state and federal emergency management plans, the Governor's Mutual Aid Assistance Compact (EMAC), and the Federal Response Plan. Local and regional Memoranda of Understanding may exist with some agencies but must be coordinated for all appropriate agencies.
- As the need for medical services increases, the jurisdictions of the NCR can implement Phase I of the Medical Response Expansion Program (MREP), which focuses on expanding the community's existing outpatient and inpatient treatment capabilities.
- Outpatient centers initially should implement a triage policy caring for the sickest patients first. Then, as the system becomes further overburdened, the triage policy should refocus to treat those most likely to survive with the level of care available. If possible, staffing should be increased to help manage an increased patient load.
- Hospitals will need to activate their internal disaster plans and begin re-directing their limited resources to care for the most seriously ill. Elective admissions will temporarily cease, while critical medical/surgical and EMS 911 functions continue. Inpatients stable enough for discharge or transfer to another suitable facility will be identified and processed as quickly as possible. In addition, hospitals will need to increase staffing in order to begin maximizing their use of internal bed space by admitting patients to outpatient surgical areas, treatment rooms, and other short-term treatment and holding areas (i.e., radiology, endoscopy suites, and waiting rooms).
- When necessary, the jurisdictions of the NCR should implement Phase II of the MREP. During this phase, designated casualty collection points and mass care facilities capable of offering outpatient services (Outpatient Treatment Centers – OPTC) and inpatient services (Alternative Medical Centers – AMC) are mobilized to provide care to bioevent victims.
- OPTC's and AMC's should be established quickly in structures of sufficient size that are located close to existing hospitals. These locations should be able to share

hospital resources and services more easily, including food preparation, laundry, pharmacy, and lab services. Examples of suitable facilities include schools, community centers, hospital cafeterias, and hotel conference rooms. These structures are advantageous because they contain adequate floor space for patient care, bathrooms, kitchens, refrigeration, laundry service, electricity, and generator backup. Ideally, the selected building will be large enough to allow all patient services to be provided on a single floor. This type of layout will minimize the need for additional support personnel.

- The identity of the agent and its infectious characteristics, combined with real-time epidemiological information, will influence the number of mass care facilities activated. These factors will also determine whether emphasis will be focused on outpatient or inpatient care. For example, biological agents that are incapacitating but have a low mortality rate (i.e., Q-fever, brucellosis, or VEE) will require a greater emphasis on outpatient treatment. Biological agents known to have a high mortality rate (anthrax, plague, and tularemia) will necessitate more inpatient medical care.
- Plans to utilize ancillary care organizations, such as nursing homes, rehabilitation hospitals, and group homes, as acute care facilities or OPTC's can be made. Planning must reflect the capabilities of the physical plant and staff of these institutions.
- The level of care provided at the OPTC and AMC will be supportive and should include agent-specific therapy, non-invasive respiratory care (i.e., bronchodilators and suctioning); intravenous hydration; pain management; treatment of nausea, vomiting, diarrhea, anxiety; and treatment of minor exacerbations of underlying disease. OPTCs can also provide mass distribution of medications along with minor wound and trauma management (i.e., wound irrigation, dressings, and orthopedic splinting). A temporary morgue can be set up at the OPTC and AMC to manage the deceased.
- OPTCs and AMCs may also be established in areas distant from hospitals to create a medical presence in the greater community and permit local residents to travel shorter distances. Dispersed AMCs may be particularly prudent if the bioterrorism agent is contagious. National Disaster Medical System (NDMS) Level I Disaster Medical Assistance Teams (DMATs) could be used to accomplish this mission. (See Point B, step 2 later in this Annex for additional staffing resources.)

POINT A – CURRENT RESOURCES

1. Hospital Mutual Aid Radio System (H-MARS)

Several years ago, the District of Columbia Hospital Association (DCHA) created H-MARS. This system links seventeen of its eighteen member hospitals (including Malcolm Grow Medical Center at Andrews Air Force Base and the National Naval Medical Center) through the installation and operation of a hard-wired radio located in each hospital's emergency department. This provides a communications line devoted exclusively to enabling all hospitals to communicate with one another as well as DCHA leaders, the District of Columbia Fire and EMS Department, the DC Mayor's Office, and the DC Emergency Management Agency.

To ensure that H-MARS is functioning correctly, an unannounced daily check of the system is made. Each hospital is responsible for maintaining the radio and ensuring that

a trained individual capable of operating the system is available on every shift. H-MARS has proven to be an extremely valuable tool in emergency medical events, most recently a fire in the Metro system.

Funding was recently received from USPHS/OEP to upgrade this to a regional radio system for the National Capital Region (NCRRS). This should lead to the integration of Maryland and Virginia hospitals and fire departments in the National Capital Region and to the creation of a link to the Metropolitan Medical Response System.

2. Metropolitan Medical Response System (MMRS)

The Metropolitan Medical Strike Team (MMST), which was the forerunner of the MMRS and NMRT in the metropolitan Washington area, was the prototype for others across the country. Started in 1995, it was initially a chemical response team and used combined personnel and equipment from Washington DC, Arlington and Fairfax counties (Virginia) and Montgomery and Prince George's counties (Maryland).

The team was able to provide emergency medical services, decontamination of victims, mental health services, plans for disposition of fatalities, and plans for the forward movement of patients to regional health care facilities, as appropriate, via the National Disaster Medical System (NDMS). There are now many of these teams in the United States.

The Office of Emergency Preparedness (OEP), in an attempt to demonstrate the importance of the system, subsequently changed the MMST name to the MMRS. This reflects the ongoing effort by OEP to effectively integrate not only fire, EMS, and HazMat, but also hospitals, laboratories, public health officials, poison control centers, mental health professionals, infectious disease experts, surrounding communities, states, and the federal government.

The MMRS's goal is to provide an effective health system response to chemical, biological, radiological, and nuclear incidents, as well as a naturally occurring outbreak such as pandemic influenza. Their goal is also to reduce morbidity and mortality.

2. National Medical Response Team – Weapons of Mass Destruction (NMRT-WMD)

This is a specialized response force designed to provide medical care following a nuclear, biological, and/or chemical (NBC) incident. This unit is capable of providing mass casualty decontamination, medical triage, and primary and secondary care to stabilize NBC victims for transportation to tertiary care facilities. There are four NMRTs in the NDMS program, with one of these teams located in the national capital region. This team is unique in that it does not have a DMAT to support it but will hand off patients to the local EMS. Unlike its counterparts, it is a static force that may only be deployed by the President of the United States.

An NMRT consists of approximately 50 members. The teams are self-sufficient in regard to their medical and decontamination operations, with the exception of the water

used for decontamination purposes. Each team is equipped with its own chemical and biological monitors and detectors, which are used primarily for personnel and victim safety. Additionally, each team carries medical supplies and medications, including antidotes, to manage 1,000 victims of a chemical incident.

Requests for NMRT come from federal, state, or local officials to the NDMS duty officer, who will process the request through the Office of Emergency Preparedness and/or the OEP Emergency Operations Center (OEP/EOC) and obtain final approval from the Assistant Secretary of Health.

The NMRT is equipped and trained to perform the following specific functions:

- Provide mass or standard decontamination
- Collect samples for laboratory analysis
- Provide medical care to contaminated victims
- Provide technical assistance to local EMS
- Assist in triage and medical care of NBC events before and after decontamination
- Provide technical assistance, decontamination, and medical care at a medical facility
- Provide medical care to Federal responders on site
- Provide conventional medical care to victims of a non-NBC event

Teams mobilize with two 15-passenger vans and two crew-cab trucks towing utility trailers.

3. Critical Care Bed Tracking System

One prototype for this system is currently in operation at Inova Fairfax Hospital. It provides an optional method of maintaining communications between hospitals and pre-hospital care in a disaster setting. Each hospital has secure access to a website that lists all the regional healthcare facilities and their current status, which is defined by the following terms:

- Fully open
- On re-route status
- Closed (due to structural damage)

The re-route status can be further sub-divided in terms of red, yellow, or green (triage categories) beds available. During normal (non-disaster) times, daily use of the system can list medical, operating room, or surgical critical care bed availability. Use of the system on a daily basis ensures that no new procedures need be implemented to communicate between facilities, EMS, and the Incident Commander.

The database is located on a secure server maintained by an independent contractor who offers 24/7 support. The computer screens and menus are self-explanatory, which eliminates the need for user training. Each hospital has a unique password to make changes to its status, but the central dispatch office has global control and may override any hospital.

The system represents the first step in linking different types of healthcare providers and may easily be expanded to handle more aspects of disaster care, such as patient tracking and resource inventory.

4. Enhanced Consequence Management Planning And Support System (ENCOMPASS)

ENCOMPASS is a Defense Advanced Research Projects Agency (DARPA) sponsored project that provides a suite of real time web-based consequence management programs that include these areas: Incident Management, Casualty Management and Tracking, Medical Facility Management, and Checklist Management.

ENCOMPASS needs a standard web browser and a 28.8 modem to access the secure, password-protected central repository.

Casualty counts are available by location, triage code, and chief complaint through the Casualty Tracking component, which enables inquiries as to victim whereabouts based on current/past locations, triage, and demographic data.

The Critical Care Bed tracking system described above enables the management of medical facilities by providing current bed census at all involved hospitals according to specialty.

The Incident Management portion is provided in part by the Electronic Watchboard (EWB). This uses Smart Message technologies to pull critical data from heterogeneous databases and push “just-in-time, just what is needed” information to planners and operators. It is a situational assessment tool that displays data about the incident as the incident evolves and allows the on-scene commander to communicate this information to other command posts, higher headquarters, and other supporting agencies. Field devices collect data that monitor the flow of casualties and responders in and out of the hot zone, record on-site medical information that can be forwarded to other treatment facilities, and assess variations of the affected area. An integrated GIS mapping tool provides a method to display geographic locations of the surrounding area.

5. Emergency Management Assistance Compact (EMAC)

The Emergency Management Assistance Compact (EMAC) is a mutual aid agreement and partnership between states that allows states to assist one another during emergencies. EMAC offers a quick and easy way for states to send personnel and equipment to help disaster relief efforts in other states. There are times when state and local resources are overwhelmed and federal assistance is inadequate or unavailable. Out-of-state aid through EMAC helps fill such shortfalls. Requests for EMAC assistance are legally binding, contractual arrangements making states that ask for help responsible for reimbursing all out-of-state costs and accepting liability for out-of-state personnel. States are assured that sending aid will not be a financial or legal burden for them. States are not forced to send any assistance unless they are able

Since being approved by Congress in 1996, as Public Law 104-321, thirty-four states and one territory have ratified EMAC, and several other states are in the process. The only requirement for joining is for a state's legislature to simply ratify the language of the compact. States are not even required to assist other states unless they're able. Maryland and Virginia are members. DC, absent statehood, is not yet a member, but is currently in the process of discussing a waiver of statehood so as to enable it to become a member of EMAC.

POINT B – Future Enhancements

Earlier discussion in this section is based upon many improvements being made in the current healthcare system. Expansion capability is limited, and at this time, hospitals have virtually no surge capacity. In order to accommodate the recommendations made for the MREP, it will be necessary to complete the following steps:

Step 1: Choose and secure sites to be used as Outpatient Treatment Centers (OPTCs) and Alternative Medical Centers (AMCs).

1. The EMAs in the metropolitan Washington area, in coordination with the appropriate public health departments and hospital associations, should identify locations throughout the national capital region that may be used as OPTC/AMCs. These locations should be recorded in a searchable database and plotted on a computerized map designed for cross-referencing.
2. Planners should keep the following points in mind when selecting OPTC/AMCs sites:
 - OPTC/AMCs sites should offer ample parking and easy access for private, emergency, and delivery vehicles.
 - OPTC sites should be large enough to process 1000 patients per day or an average of 42 patients per hour.
 - AMC sites should be large enough to house at least 250 inpatients (1000 patients ideally), grouped in 50-patient sub-units, with a minimum of five sub-units per facility.
 - In addition to patient care areas, the OPTC/AMC should be able to provide enough space for initial triage, admissions and registration, family/visitor waiting area, staff break room, pharmacy, administration (control center), communications, staff workstations, storage, locked security area, and temporary morgue. Inpatients should be able to rest on portable cots that can be arranged to maximize space and allow ample room between beds (at least 18 inches) for personnel to maneuver and circulate.

Step 2: Secure, train, and credential personnel to staff OPTCs and AMCs.

1. Depending upon the magnitude and geographic extent of a bioevent, staff for the AMC may need to be recruited from nearby hospitals and health departments that are located in non-impacted areas. Jurisdictions should establish mutual aid agreements to pull staff from these agencies, as necessary, to treat the large numbers of

- anticipated victims and create the infrastructure necessary to integrate mutual-aid and state and federal assets.
2. Some of the staff at the OPTC/AMC should come from the local hospital to act as a liaison between these centers and the hospital. Access to other sources of trained personnel, such as National Guard Units, Army Reserve, VA hospitals, area military hospitals, public health clinics, MMRS units, and DMATs, should be pre-arranged by EMA through Memoranda of Understanding with regional hospitals and organizations.
 3. Plans should be made to rapidly coordinate medical volunteers after an attack. These plans should require utilization of regional disaster plans, which should be coordinated by emergency management, the health department, and local hospitals.
 4. OPTC/AMC staff should be trained to ensure their ability to operate within a disaster/medicine environment prior to opening these centers. Job action sheets should be created for each required position to help these preparedness efforts.
 5. Personnel should be credentialed by appropriate medical and professional organizations in advance of an attack. The credentialing process should be coordinated by the appropriate area agency in order to streamline the process. A current license to practice should be sufficient for credentialing.

Step 3: Establish plans to optimize use of hospitals and AMCs.

1. ESF-8 should monitor bed availability at the hospitals and AMCs and coordinate all bed assignments for bioevent patients through their emergency operations center.
2. Non-traditional patient care areas in hospitals, such as same day surgical areas, the cafeteria, or auditorium, should be identified in advance through a coordinated effort between the hospitals' administration and the BTF. With planning, these sites could be converted to temporary patient treatment areas. Plans should also be established to augment staff to care for the increased volume of patients. The emergency management agencies should coordinate logistical support, equipment, and supplies.
3. EMS resources dedicated to the casualty management operation and supplemented by federal assets should provide standby and transport services in and around clusters of hospitals, clinics, OPTCs, and AMCs. These clusters should be able to transport patients from the hospitals and clinics to either OPTCs or AMCs as appropriate, relieving some of the pressure on hospitals. Where the volume of patients requiring transportation is high, the Medical Transportation Coordinator should use alternative methods.

Step 4: Ensure that OPTCs and AMCs maintain identical resources.

1. Jurisdictions establishing AMCs should coordinate to ensure that every AMC is set up identically and uses the same equipment and supplies. Uniform AMCs will allow rapid mobilization of additional facilities as dictated by patient surges.
2. Medical equipment, pharmaceuticals, and supplies for an AMC should be predetermined and stocked in designated caches.
3. The BTF, together with the EMAs, should coordinate with the states and the district to orchestrate, stockpile, and distribute the medical equipment caches. In addition, it

will be necessary to delegate responsibility for maintaining the continuous operational capacity of these centers to the appropriate agency or agencies.

Step 5: Establish plans to care for homebound patients.

1. The BTF, local health departments, and hospital associations plan with the American Red Cross, emergency management agencies, and local outreach organizations to assess and care for homebound patients.
 2. Planning for homebound care should include the elderly in nursing homes and group homes, as well as patients on home ventilators and others assisted at home by nursing and personal care agencies.
 3. A hotline should be set up to register these patients.
 4. An alternative plan to encourage patients to remain at home to receive care, envisioned by the Arlington County Fire Chief, should be evaluated for inclusion in a home care plan.
- The government would announce to all county residents that the only bed available would be the one in their own home. Instructions on self-care would be provided on a regular basis through various mediums, including television, radio, telephone hotline, and the Internet.
 - As an integral part of the planning process, a database according to “fire-box” would be set up, and grids would be created and staffed by off-duty firefighters (all cross-trained as EMTs in Arlington) and off-duty law enforcement officers.
 - In this manner, medications would be distributed and basic “disaster care” would be provided to people in their own homes so that only the most critical patients would be transported to area hospitals.

Step 6: Ensure that plans are established to integrate state and federal resources into the mass patient care response plan.

1. Requirements for state and federal integration should be communicated and coordinated with Federal HHS, through ESF-8 in the FEMA EOC, to set up, staff, and sustain patient treatment centers.
 2. Federal resources should be used in the following manner at the request of the Emergency Management Agencies:
- Disaster Medical Assistance Teams
 - Level I: Full DMATs may be used to establish AMCs with stand-alone staffing, materiel, and infrastructure.
 - Level II: Limited DMATs should be used to augment staff in overwhelmed hospitals and AMCs.
 - Other federal medical resources, such as military active duty or reserve hospital may be used at OPTCs and AMCs if deployed under a federal ESF-8 deployment and at the direction of HHS.

Step 7: Establish a plan for tracking victims.

1. Tracking victims is critical to ensure that they receive adequate patient care and to assess possible long-term sequelae for clinical and scientific purposes.

G. Annex: Resourcing EMS Capabilities

Description:

The local Emergency Operations Centers, in coordination and cooperation with NCR fire and EMS agencies, should designate specific EMS resources to provide stand-by and transport services in and around clusters of hospitals, clinics, OPTCs, and AMCs. These EMS resources should not, if possible, be used for 911 services. Rather, these units should be dedicated to the MREP casualty management operation to provide rapid intervention and transport services.

Fire and EMS agencies, in cooperation with the state and local emergency management, should designate and define EMS transport zones (groupings of hospitals, OPTCs, and AMCs), known as clusters. Each cluster should have at least one designated EMS unit, with more available as the need rises. If the demand for EMS services is great in the general community, mutual aid will be requested through established agreements within and outside the national capital region operating area. Commercial ambulance providers are an active component of mutual aid agreements, and additional federal assistance may also be considered (DHHS, DoD, or NG) through FEMA.

The operation and activity of cluster EMS units will be coordinated through Emergency Support Function (ESF)-8 (Health and Medical) in the state EOCs.

POINT A – CURRENT RESOURCES

ANNEX G, FIGURE 1: NATIONAL CAPITAL REGION FIRE AND EMS RESOURCES

		Fredrick County Fire and Rescue	Prince William County Fire and Rescue	Loudon County Fire and Rescue	DC Fire and EMS	Montgomery County Fire and Rescue	Fairfax County Fire and Rescue	Metropolitan Washington Airport Authority	Arlington County Fire and Rescue	Alexandria Fire and Rescue
Personnel										
Number of Career Personnel		77	236	80	1187	916	426	123	255	187
Number of Volunteer Personnel		1500	805	1148		790	384			
Total Uniformed Personnel		95	236	105	1274	1706	1137	123	255	201
Total Number of Non-Uniformed Civilian Personnel		8	24	24	492	63	182	1	13	65
Number Staff Certified of EMT-B		762	166	400	996	1880	842	98	195	138
Number Staff Certified EMT-C		4	66	31		10	211	3	10	13
Number of Certified EMT-D				250	996		1220			138
Number Staff Certified EMT-P		63	50	47	140	263	167	17	62	36
Number of Certified HazMat Personnel		55	216	43	835	831	1500	122	265	145

EMS Apparatus

Number of BLS Support Engines		22	16	15	32	33		2	8	11
Number of ALS Support Engines					32	15				
Number of Paramedic Engines					2		34		2	
Number of Basic Life Support Units		32	16	2	21	23	18			
Number of Advanced Life Support Units		7	8	27	15	21	21	3	5	4
Number of Transport Capable Units		32	8	29	34	76	39	3	5	4
Number of Non-Transport Units (chase vehicles)		7ALS	11	4	2	1		1		1

**ANNEX G, FIGURE 1: NATIONAL CAPITAL REGION FIRE AND EMS RESOURCES
(continued)**

		PG County Fire and Rescue	Fairfax City Fire and Rescue	Naval District of Washington	All American Ambulance	Rural Metro	Lifecare	Loudon-Fairfax	Professional	Physicians
Personnel										
Number of Career Personnel		524	51	57						
Number of Volunteer Personnel		1000	26							
Total Uniformed Personnel		593	85	66						
Total Number of Non-Uniformed Civilian Personnel		85	13	7						
Number Staff Certified of EMT-B		802	71	41						
Number Staff Certified EMT-C		6	8	69						
Number of Certified EMT-D			71							
Number Staff Certified EMT-P		166	24							
Number of Certified HazMat Personnel		1689	77	55						
EMS Apparatus										
Number of BLS Support Engines		40	2	4						
Number of ALS Support Engines			2							
Number of Paramedic Engines										
Number of Basic Life Support Units		45			16	136 BLS/ALS			25	2
Number of Advanced Life Support Units		10	2		8	136 BLS/ALS	33	8	10	6
Number of Transport Capable Units		61	3				12	1		
Number of Non-Transport Units (chase vehicles)			2							

POINT B – Future Enhancements

EMS should be integrated into all components of the plan, including providing them with instructions for isolating of suspected cases and knowledge of pre-designated facilities that will act as receiving hospitals for these cases. A recent study on “The Role of EMS Systems in Public Health Emergencies” concluded, “the incorporation of the prehospital sector into an already existing framework for public health emergencies (i.e., epidemics) enhances the reach of the public safety surveillance net. It ensures that proper isolation is continued from identification of a possible case to arrival at a definitive treatment facility.”

H. Annex: Hospital Plan

Description:

Hospital emergency response plans should consider the following provisions. They should make every attempt to discharge stable patients, refer patients in need of mental health services to appropriate providers, and transfer suitable non-bioevent patients to other comparable outlying facilities in order to make bed space available for critically ill victims. This transport may be accomplished through the hospital's usual transport mechanism or through a mechanism established in the plan if ambulance resources are not readily available. Hospitals should limit elective, non-critical admissions while continuing to provide services to acutely ill bioevent and non-bioevent patients. Hospitals may consider the transport of in-patients, either bioevent or non-bioevent, to facilities out of the region in coordination with the NDMS. The state plans should ensure that adequate medical transportation and logistical support are provided to each of these centers to initiate and sustain operations. For more current data see www.dcha.org.

ANNEX H, FIGURE 1: NATIONAL CAPITAL REGION HOSPITAL RESOURCES – DECEMBER 1999 DISTRICT OF COLUMBIA HOSPITALS

	Med/Surg	OB/GYN	Peds	ICU	NICU	Psych	DECON	TRAUMA CTR	Substance Abuse	Other	Total
Children's National Medical Center			122	16	30	20	n/a	yes			188
Columbia Hospital for Woman	29	51		4	35		n/a	n/a	12		131
District of Columbia General Hospital	81	12	8	27	6		yes	n/a	15	35	184
George Washington University Hospital	186	16		27	18	34	yes	yes			281
Georgetown University Hospital	195	18	36	38	50	14	n/a	yes			351
Greater Southeast Hospital	180					20	n/a	n/a		36	236
Hadley Memorial Hospital	63										63
Howard University Hospital	178	32	23	28	9	24	n/a	yes			294
National Rehabilitation Hospital							yes	n/a			
Providence Hospital	201	48		17	9	29	yes	n/a	12		316
Sibley Memorial Hospital	162	22		14		20	n/a	n/a			218
Walter Reed Army Medical Center	130	0	30	28		40	yes	n/a		22	250
Washington Hospital Center	616	41		71	23	28	yes	yes		33	812
Total	1891	240	189	242	180	189			39	104	3074

ANNEX H, FIGURE 2: NATIONAL CAPITAL REGION HOSPITAL RESOURCES – DECEMBER 1999 NORTHERN VIRGINIA HOSPITALS

	Med/Surg	OB/GYN	Peds	ICU	NICU	Psych	DECON	TRAUMA CTR	Substance Abuse	Other	Total
INOVA Fairfax	408	91	57	54	12	34	yes	yes			656
INOVA Fair Oaks	62	46	8	35	7		n/a	n/a			151
INOVA Mt. Vernon	122			20		23	yes	n/a		67	232
INOVA Alexandria	207	39	24	50	16	19	yes	n/a		32	339
Potomac Hospital	100	20	12	9	5	12	yes	n/a		11	153
Prince William Hospital	99	14	14	11	10	32	yes	n/a		14	170
Loudoun Hospital	45	18	7	10	4					21	80
North Virginia Community Hospital (Vencor)	132			12		20	yes	n/a			164
Reston Hospital	63	27	13	8	8		yes	n/a		16	127
Arlington Hospital	215	40	15	24	12	40	yes	n/a		36	334
Total	1453	295	150	233	74	180				197	2406

ANNEX H, FIGURE 3: NATIONAL CAPITAL REGION HOSPITAL RESOURCES – DECEMBER 1999 MARYLAND HOSPITALS

		Med/Surg	OB/GYN	Peds	ICU	NICU	Psych	DECON	TRAUMA CTR	Substance Abuse	Other	Total
PG General Hospital		278			16			yes	yes			467
Southern Maryland Hospital		202			33			yes	n/a			358
Doctors Hospital		221			29							250
Laurel/Beltsville Hospital		106			10							179
Ft. Washington		29			4			yes	n/a			33
Holy Cross Hospital		205			14			yes	n/a			422
Suburban Hospital		246			12							338
Washington Adventist		186			34							300
Shady Grove Hospital		167			21							253
Montgomery General		136			16							213
Calvert Hospital		81			6							141
Charles County CIVISTA		104			10							131
St. Mary's Hospital		64			6							122
Total		2025			211							3207

* This data is based on the total number of licensed hospital beds

**ANNEX H, FIGURE 4: LARGEST NATIONAL CAPITAL REGION HOSPITAL BEDS, STAFFED VS. TOTAL
(From Washington Business Journal)**

<u>Hospital Name</u>	<u>Total Beds</u>	<u>Staffed Beds</u>	<u>Difference</u>	<u>Staffed Percentages</u>
(by state in alphabetical order)				
<u>Maryland</u>				
Anne Arundel Medical Center	301	301	0	
Frederick Memorial Healthcare System	228	228	0	
Holy Cross Hospital	428	412	16	
Laurel Memorial Hospital	185	185	0	
Montgomery General Hospital	244	192	52	
Naval Medical Center	229	218	11	
Prince George's Hospital Center	447	370	77	
Shady Grove Adventist Hospital	263	263	0	
Southern Maryland Hospital	358	350	8	
Suburban Hospital	397	222	175	
Warren Grant Maghuson Clinical Center (NIH)	325	325	0	
Washington Adventist Hospital	300	300	0	
<i>Total in Maryland</i>	3705	3366	339	90.85% of beds are staffed
<u>Virginia</u>				
Inova Fairfax Hospital	656	656	0	
Arlington Hospital	334	334	0	
Inova Alexandria Hospital	339	311	28	
Inova Mount Vernon Hospital	232	229	3	
Inova Fair Oaks Hospital	151	138	13	
<i>Total in Virginia</i>	1712	1668	44	97.43% of beds are staffed

ANNEX H, FIGURE 4: LARGEST NATIONAL CAPITAL REGION HOSPITAL BEDS, STAFFED VS. TOTAL (continued)
(From Washington Business Journal)

Washington, D.C. (Licensed Beds)				
Children's National Medical Center	279	188	91	
D.C. General Hospital	410	250	160	
Georgetown University Hospital	535	352	183	
George Washington University Hospital	501	312	189	
Greater Southeast Community Hospital	450	236	214	
Howard University Hospital	347	327	20	
National Rehabilitation Hospital	128	110	18	
Providence Hospital	408	316	92	
St. Elizabeth's Hospital	742	742	0	
Sibley Memorial Hospital	340	218	122	
Veterans Affairs Medical Center	167	167	0	
Walter Reed Army Medical Center	429	238	191	
Washington Hospital Center	907	819	88	
Total in Washington, D.C.	5643	4275	1368	75.76% of licensed beds exist and are staffed
Total in NCR	11060	9309	1751	84.17% of beds are staffed

ANNEX H, FIGURE 5: VA FEDERAL COORDINATING CENTER – NDMS HOSPITALS

VA	NDMS (VA-Managed)		NDMS	NDMS Beds	NDMS Beds
VISN#	FEDERAL COORDINATING CENTER		HOSPITALS	MINIMUM	MAXIMUM
3	Castle Point, NY (VA Hudson Valley HCS-Castle Point Division)		40	690	1,407
3	Long Island, NY (VAMC Northport)		32	730	1,794
3	Brooklyn, NY (VAMC Northport)		17	132	403
3	Lyons, NJ (VA New Jersey HCS-Lyons Division)		78	2,286	4,003
3	New York, NY (VAMC New York)		25	680	1,525
		VISN 3 TOTALS	192	4,518	9,132
4	Philadelphia, PA (VAMC Philadelphia)		90	2,119	4,380
4	Pittsburgh, PA (VA Pittsburgh HCS-Pittsburgh UD Division)		69	2,481	6,250
		VISN 4 TOTALS	159	4,600	10,630
6	Richmond, VA (VAMC Richmond)		16	637	1,068
6	Salisbury, NC (VAMC Salisbury)		97	2,858	4,836
		VISN 6 TOTALS	113	3,495	5,904

POINT A – Current Resources

The District of Columbia Hospital Association's Mutual Aid Memorandum of Understanding (MOU) is a voluntary agreement among the District of Columbia hospitals for the purpose of providing mutual aid to one another at the time of a medical disaster. The purpose of this mutual aid agreement is to help hospitals achieve an effective level of disaster medical preparedness by authorizing the exchange of medical personnel, pharmaceuticals, supplies or equipment, or the evacuation or admission of patients in the event of a disaster. All members of the DC Hospital Association are parties to the

MOU. (See Section on Local Plans for Details).

POINT B – Future Enhancements

Regional cooperation should be extended to pooling resources, providing common training for staff, and standardizing emergency codes. The medical community will need to plan further to expand local capability to its maximum, supplement this with alternate care facilities, provide outreach in the community (home care), and determine patient evacuation. They should establish guidelines for personnel working outside their traditional job descriptions.

JCAHO, in new standards regulations published January 1, 2001(see section on local plans), is requiring that hospitals implement ICS and it is likely that the "Hospital Emergency Incident Command System" (San Mateo County Health Services Agency, Emergency Medical Services, 3rd edition, volume 1, San Mateo County, CA) will be used.

I. Annex: Federal Assets

Description:

This annex lists the coordinated federal assistance to supplement state and local resources in response to public health and medical needs following a major disaster or emergency. The support is categorized into the following functional areas:

- Health and medical needs assessment
- Health surveillance
- Medical care personnel
- Health and medical equipment and supplies
- Patient evacuation
- In-hospital care
- Food, drug and medical device safety
- Worker health and safety
- Radiological/chemical/biological hazards consultation
- Mental health care
- Public health information
- Vector control
- Potable water, wastewater, and solid waste disposal
- Victim identification and mortuary services
- Veterinary services

POINT A - CURRENT RESOURCES

Area hospitals, clinics, and private medical doctors may need to forego some of their normal autonomy and function as a unified body during a bioevent emergency declaration.

Hospitals, clinics, OPTCs, and AMCs should provide situation reports (SITREPS) directly to ESF-8 within local EOCs. Situation Reports (SITREPS) should be transmitted to ESF-8 either by fax or by secure email and should include this information:

- General status of activities and operations
- Current patient count
- Cumulative patient count
- Logistics or staffing needs

Hospitals, clinics, OPTCs, and AMCs can make requests for resources such as materiel, human resources, and pharmaceuticals directly to ESF-8. This will allow ESF-8 to coordinate the distribution of assets throughout the region based on resource availability. A section chief, who reports directly to the state Emergency Management Agency, should lead ESF-8. The ESF-8 section chief should coordinate with other ESF section chiefs to ensure that activities are cohesive and all objectives and requests are met.

1. The National Disaster Medical System (NDMS)

NDMS is activated through the Federal Response Plan, works within ESF-8, and is designed to fulfill three primary functions:

- To provide supplemental health and medical assistance in domestic disasters at the request of state and local authorities.
- To evacuate patients who cannot be cared for in the disaster area to designated locations elsewhere in the nation.
- To provide hospitalization in a nationwide network of hospitals to care for the victims of domestic disaster or military contingency that exceeds the medical care capability of the affected local, state, or federal medical system.

2. The National Disaster Medical Assistance Teams (DMATs)

NDMS, through the U.S. Public Health Service (USPHS), fosters the development of DMATs. A DMAT is a group of professional and paraprofessional medical personnel (supported by a cadre of logistical and administrative staff) designed to provide emergency medical care during a disaster or other event.

Each team has a sponsoring organization, such as a major medical center, public health or safety agency, non-profit, public, or private organization that signs a Memorandum of Understanding (MOU) with the USPHS. The DMAT sponsor organizes the team and recruits members, arranges training, and coordinates the dispatch of the team.

In addition to the standard DMATs, there are highly specialized DMATs that deal with specific medical conditions such as crush injury, burn, and mental health emergencies. Other specialty teams include Disaster Mortuary Operational Response Teams (DMORTs) that provide mortuary services, Veterinary Medical Assistance Teams (VMATs) that provide veterinary services, and National Medical Response Teams (NMRTs) that are equipped and trained to provide medical care for victims of weapons of mass destruction.

DMATs deploy to disaster sites with sufficient supplies and equipment to sustain themselves for a period of 72 hours, while they provide medical care at a fixed or temporary medical care site. In mass casualty incidents, their responsibilities include triaging patients, providing austere medical care, and preparing patients for evacuation. In other types of situations, DMATs may provide primary health care and/or may serve to augment overloaded local health care staffs. Under the rare circumstance that disaster victims are evacuated to a different locale to receive definitive medical care, DMATs may be activated to support patient reception and patient disposition at hospitals.

DMATs are designed to be a rapid-response element to supplement local medical care until other federal or contract resources can be mobilized, or the situation is resolved.

DMAT members are required to maintain appropriate certifications and licensure within their discipline. When members are activated as federal employees, all states recognize licensure and certification. Additionally, DMAT members are paid while serving as part-time federal employees and have the protection of the Federal Tort Claims Act in which the Federal Government becomes the defendant in the event of a malpractice claim.

DMATs are principally a community resource available to support local, regional, and state requirements. However, as a national resource they can be federalized to provide interstate aid.

3. Commissioned Corps Readiness Force (CCRF)

The U.S. Surgeon General created the CCRF in 1994 to improve the DHHS capability to respond to public health emergencies. HHS/OEP implements the responses and manages the system. CCRF consists of a cadre of USPHS officers uniquely qualified to mobilize in times of extraordinary need in response to domestic or international requests and to provide public health leadership and expertise. Capabilities include: “hands-on” care, technical assistance liaison support to OEP, FBI, FEMA, regional staff assistance, augmenting NDMS teams and responding to non-federally declared disasters, emergencies, or special events. Professional categories include: physicians, dentists, nurses, engineers, scientists, environmental health officers, veterinarians, pharmacists, dietitians, therapeutics, and health science officers. The CCRF membership is listed as 1,372 individuals.

4. Veterinary Medical Assistance Teams (VMATs)

The Federal Response Plan tasks the National Disaster Medical System (NDMS) under Emergency Support Function #8 (ESF-8) to provide assistance in assessing the extent of disruption and need for veterinary services following major disasters or emergencies. These responsibilities include the following:

- Assessment of clinical needs of animals
- Animal care and handling
- Animal sheltering and evacuation
- Animal inspection and disease surveillance
- Technical assistance
- Hazard mitigation
- Care and shelter of companion pets

In order to accomplish this mission, NDMS entered into a Memorandum of Understanding with the American Veterinary Medical Association (AVMA), a nonprofit organization, to develop Veterinary Medical Assistance Teams (VMATs). VMATs are composed of private citizens who are called upon in the event of a disaster. VMAT members are required to maintain appropriate certifications and licensure within their discipline. When members are activated, all states recognize licensure and certification, and the Federal Government compensates the team members for their duty time as

temporary federal employees. During an emergency response, VMATs work under the guidance of local authorities by providing technical assistance and veterinary services.

The National Disaster Medical System in conjunction with the Coordinator of Emergency Preparedness directs the VMATs for the AVMA. Teams are composed of clinical veterinarians, veterinary pathologists, animal health technicians (veterinary technicians), microbiologist/virologists, epidemiologists, toxicologists, and various scientific and support personnel.

5. American Red Cross

The American Red Cross (ARC) is a humanitarian organization, led by volunteers, which provides relief to victims of disasters and helps people prevent, prepare for, and respond to emergencies. Its primary lines of service are: disaster services, armed forces emergency services, biomedical services, health & safety services, international services, and volunteer services. It is the only non-governmental organization signatory to the Federal Response Plan for ESF-6 (Mass Care).

The National Capital chapter in Washington, DC has a paid staff of 106 and 250 disaster volunteers as well as mutual aid agreements with the surrounding counties that are members of the COG.

Services that will be of value following a bioevent are health services, mental health services, disaster welfare inquiry, family services, and mass care.

The National headquarters has 238 Emergency Response Vehicles (ERVs), 11 Communications Vehicles, 10 Supply ERVs, 10 Logistical ERVs, 10 warehouses strategically placed in the U.S. and an Air Team, which can respond to mass casualty events.

6. Weapons of Mass Destruction (WMD) Civil Support Teams (CST)

The WMD Civil Support Teams were established to provide rapid assistance to a local incident commander in determining the nature and extent of an attack or incident. They were also established to provide expert technical advice on WMD response operations and help identify and support the arrival of follow-on state and federal military response assets. Each team consists of 22 highly skilled, full-time members of the Army and Air National Guard.

The WMD Civil Support Teams are unique because of their federal-state relationship. They are federally resourced, federally trained, and federally evaluated, and they operate under federal doctrine. But they will perform their mission primarily under the command and control of the governors of the states in which they are located. They will be, first and foremost, state assets. Unless federalized, they fall under the command and control of the adjutants general of those states. As a result, they will be available to respond to an incident as part of a state response well before federal response assets would be called upon to provide assistance.

At this time, the closest operational team to the national capital region is the 3rd WMD-CST from Fort Indiantown Gap, Pennsylvania.

7. Centers for Disease Control and Prevention (CDC)

The Centers for Disease Control and Prevention (CDC) is recognized as the lead federal agency for protecting the health and safety of people - at home and abroad, providing credible information to enhance health decisions, and promoting health through strong partnerships. CDC serves as the national focus for developing and applying disease prevention and control, environmental health, and health promotion and education activities designed to improve the health of the people of the United States. CDC, located in Atlanta, Georgia, USA, is an agency of the Department of Health and Human Services.

One of the CDC's missions is to protect individuals against emerging infectious diseases including bioterrorism as defined in the following statement. CDC will continue to fight against infectious diseases, with particular emphasis on emerging and antimicrobially resistant infectious diseases. We will reinforce international work to reduce and eliminate re-emergent infectious diseases. We will continue to strengthen local, state, and national public health capacity to respond to growing threats from biological and chemical terrorism.

J. Annex: Incident Management System

This planning guide embodies three overarching concepts:

- Operational issues, which are the responsibility of, and fall under the authority of, each local or state jurisdiction. The jurisdictions will follow their existing standard operating procedures and guidelines.
- Technical issues, which are dealt with by subject matter experts (SME)s and members of the Bioterrorism Task Force (BTF) – Annex L
- Policy issues, which is a function of the governmental leadership – Annex K.

The national capital region, by virtue of its composition with multiple counties, two states, and the District of Columbia, in all probability, will have multiple Emergency Operations Centers (EOCs) operating simultaneously. The number of operating EOCs could add to the complexity of the situation, and it is extremely important that the planning process coordinates efforts and facilitates communications among the different entities. To date, the Bio-Defense Steering Committee that has evolved into the BTF has provided an excellent forum for discussion of the various issues facing the region as a whole as it develops medical strategies for coping with possible bioevents.

POINT A – CURRENT RESOURCES

When local resources are inadequate to cope with the influx of patients, on request by the Emergency Management Agencies working in concert with the Departments of Health, the following federal resources can be made available to the national capital region.

1. Federal Response Plan.

Under the Stafford Act, a state governor may request the President to declare a major disaster or an emergency if an event is beyond the combined response capabilities of the state and affected local governments. No direct federal assistance is authorized prior to the emergency declaration; however, FEMA can use limited pre-declaration authorities to move Initial Response Resources and emergency teams closer to affected areas. Additionally, when an incident poses a threat to life and property that cannot effectively be dealt with by the state and local governments, FEMA may request the Department of Defense (DoD) to utilize its resources prior to a declaration to perform any emergency efforts deemed “essential for preservation of life and property.”

2. Military Support to Civilian Authorities (MSCA).

Imminently serious conditions resulting from any civil emergency or attack may require immediate action by military commanders, or by responsible officials of other DoD agencies, to save lives, prevent human suffering, or mitigate property damage. This function is termed “Immediate Response.”

K. Annex: Policy Makers

The national capital region's policy makers probably will convene to formulate policy affecting the region as a whole during a significant bioevent. Once these high-level policymakers have decided on a regional approach, they can provide this information to their respective jurisdictions. In no way is this intended to supercede the powers vested in the state and local authorities. The following list includes some of the many issues and needs that may be addressed:

- Activating the MREP based on region-wide casualty counts. This might include the activation and operation of Outpatient Treatment Centers (OPTC) and Alternative Medical Centers (AMC) for prophylaxis and casualty care (see Annex F: MREP)
- Activating a mass fatality strategy based on region-wide fatality counts and activities at local medical examiner offices (see Annex O: MEEP)
- Utilizing pre-designated locations/facilities as OPTCs and AMCs
- Staffing OPTCs and AMCs
- Providing medical resources, including personnel and materiel
- Instituting rapid prophylaxis and treatment
- Implementing quarantine or isolation measures (contagious agent)
- Obtaining additional support and federal assets
- Balancing the rights of the infected with those of the uninfected
- Considering the political, legal, moral, and ethical issues involved in civil liberties and the authorities of state and federal health officials³

³ Personal communication with Dr. Eric Noji, CDC

L. Annex: Bioterrorism Task Force (BTF)

The COG Bioterrorism Task Force (BTF) is intended to provide policy makers with advice that is based on technical and practical expertise. It should comprise select academic and scientific personnel and professionals or Subject Matter Experts (SMEs), with the current Bio-Defense Steering Committee forming the nucleus of this group (see BTF membership roster). Its role should be to discuss those issues that should be addressed at a regional planning level. Ideally, members should be drawn from the following disciplines:

- Public health (including federal, state, local and academic)
- Adult and pediatric infectious diseases specialists
- Veterinary science
- Epidemiology
- Laboratory science
- Emergency Management
- Law enforcement (including local law enforcement and FBI)
- Emergency medical service (senior clinical and operational members)
- Fire service
- Mental Health

The BTF is an inter-disciplinary advisory group of professionals who represent the following agencies:

- American Red Cross
- Association for Professionals in Infection Control
- Association of Funeral Directors
- COG Fire Chiefs' Committee
- COG Police Chiefs' Committee
- COG Public Safety
- DC Department of Health
- DC Emergency Management Agency
- DC Hospital Association
- DC Mayor's EMS Advisory Committee
- DC Office of Chief Medical Examiner
- Department of Defense
- Department of Veterans Affairs
- DMORTs
- Federal Bureau of Investigation Washington Field Office
- Federal Emergency Management Agency
- Federal Protective Services
- Greater Prince William Chem-Bio Counter-terrorism Committee
- Howard County Health Department
- Local military installations

- Maryland Department of Agriculture
- Maryland Department of Health and Mental Hygiene
- Maryland Emergency Management Agency
- Maryland Institute of Emergency Medical Services System
- Montgomery County Fire and Rescue Service
- Montgomery County Office of Emergency Management
- Montgomery County Office of Emergency Management
- Montgomery County Department of Health and Human Services/Public Health Services
- Office of the Attending Physician, U.S. Congress
- Prince George's County Health Department
- Prince William Health District
- The George Washington University School of Public Health and Health Services
- The George Washington University School of Medicine and Health Sciences
- United States Secret Service
- USPHS Office of Emergency Preparedness
- USPHS Region III
- Virginia Department of Emergency Management
- Virginia Department of Health
- COG Police Chiefs Committee

M. Annex: Communications and Public Information

The Public Information component is a critical piece of an overall plan. According to the Seattle MMRS BT Plan, “The degree of community cooperation with a mass care operation is... directly proportional to the timeliness, accuracy, clarity and integrity of information to the public.” They need to know “what happened, what biological agent was used, who is at risk, what remedial actions are in place/underway, who should receive immunization/prophylaxis, and how to get this treatment, and what is the prognosis for the uninfected and/or immunized population.”

Furthermore, David Rosner’s article “Epidemics”, which covers the West Nile Virus outbreak in New York City, spells out how important it was to have a program that “tried to find a balance between sounding the alarm and preventing panic, between giving citizens a sense of personal control over the threat and demonstrating that officials are taking public action to address the crisis.”

It is extremely important to pre-designate a primary spokesperson and to use press conferences and public service announcements, to apprise citizens of the dangers of the agent/disease, and to urge personal vigilance in avoiding public gatherings if this is a communicable disease.

Effective communication through the news media will be essential to limit terrorists’ ability to induce panic and disrupt daily life. Rumors will fill the information gap until they are dispelled. It is recommended that the public be informed as to number of cases, size and location of outbreak, travel bulletins, instruction, and recommendations.

POINT A – CURRENT RESOURCES

1. Hospital Mutual Aid Radio System (H-MARS). Several years ago the District of Columbia Hospital Association (DCHA) created H-MARS. This system links 17 of its 18 member hospitals (including Malcolm Grow Medical Center at Andrews Air Force Base and the National Naval Medical Center) through the installation and operation of a hard-wired radio located in each hospital’s emergency departments. This system provides a communications line devoted exclusively to enabling all hospitals to communicate with one another as well as with DCHA leaders, the District of Columbia Fire Department (including EMS), the DC Mayor’s Office and the DC Emergency Management Agency.

To ensure that H-MARS is functioning correctly, an unannounced daily check of the system is made. Each hospital is responsible for radio maintenance and for ensuring that a trained individual capable of operating the system is available on every shift. H-MARS has proven to be an extremely valuable tool in emergency medical events as evidenced most recently, in supporting the response to a fire in the DC Metro system. Funding was recently received from USPHS/OEP to upgrade H-MARS to a regional radio system for the national capital region (NCRRS). Hopefully, this will lead to the integration of

Maryland and Virginia hospitals and fire departments in the national capital region, and create a link to the Metropolitan Medical Response System.

2. Capital Wireless Integrated Network (Cap-WIN). This is a partnership between the States of Maryland and Virginia and the District of Columbia to develop an integrated transportation and criminal justice information wireless network. This unique project will be the first multi-state transportation and public safety integrated wireless network in the United States. Potential uses include providing better, more timely information that is needed to make critical decisions involving the safety of the public, providing more effective and efficient multi-agency operations for dealing with major events, and providing on-scene access to national databases with critical information.

3. Metropolitan Washington Council of Governments Mutual Aid Radio System (COGMARS). This provides a multiple (11) channel conventional 800 MHz frequency mutual aid radio communications system, allowing interoperability within 800 MHz systems or interfacing with Low Band, VHF, and/or UHF systems. This system facilitates the use of command and control of personnel, units, and public safety agencies from various COG jurisdictions, including the Federal Government, District of Columbia, State of Maryland, and the Commonwealth of Virginia, that are working in concert to coordinate the mitigation of public safety events. Public Safety is defined by the Federal Communications Committee as consisting of these agencies: Fire-Rescue, Law Enforcement, Highway Maintenance, Local Government, Forestry Conservation, and Special Emergency Radio Services, which includes Emergency Medical Services, Health Care facilities (hospitals), and Emergency Management Agencies.

4. Reverse 911. Arlington County public safety dispatch has a “reverse 911” system which, during an emergency, can be programmed to dial 48 simultaneous numbers automatically and to deliver a recorded message. Messages can be targeted to a specific zip code or geographic location using a GIS component.

5. Radio Emergency Associated Communications Teams (REACT). This is a public service organization comprised of private radio operators who serve travelers and their communities alike with radio communications. Member volunteers are dedicating to improving their communities by providing voluntary, two-way communications.

Purposes of REACT include the following issues:

- The correct usage of CB Emergency Channel 9.
- Using their radios in the interest of public safety. Many teams monitor Citizens Band [CB] Radio Emergency Channel 9. Many also use radios called General Mobile Radio Service (GMRS) and have access to local GMRS Repeaters, generally on the 462.675 MHz frequency. Some teams have more than one repeater or may be on different frequencies.
- Developing the skilled use of the CB Radio Service, GMRS (UHF), BBS, cellular, and other radio services as additional sources of communications in emergencies.
- Coordinating efforts with other emergency organizations including police, FEMA, NOAA, RACES, ARES, NOVAD, the Salvation Army, and the American Red Cross.

- Providing public service communications for travelers and their local communities.

6. Radio Amateur Civil Emergency Service (RACES). Founded in 1952, this public service provides a reserve communications group within government agencies in times of extraordinary need. During periods of activation, RACES personnel are called upon to perform many tasks for the government agencies they serve. Although the exact nature of each activation will be different, the common thread is communications.

The Federal Communications Commission (FCC) is responsible for the regulation of RACES operations. The local, county, or state civil defense agency responsible for disaster services administers each RACES group. This civil defense agency is typically an emergency services or emergency management organization, sometimes within another agency such as police or fire. In some areas, RACES may be part of an agency's Auxiliary Communications Service (ACS). Some RACES groups call themselves by other names (often to avoid confusion with similarly sounding terms such as "racist" or "horse races"), such as ACS, DCS (Disaster Communications Service), or ECS (Emergency Communications Service). The Federal Emergency Management Agency (FEMA) provides planning guidance, technical assistance, and funding for establishing a RACES organization at the state and local government level.

7. National Warning System (NAWAS) Emergency Preparedness Network – Washington Area Communications Segment (WACS). The Washington Area Communications Circuit is a telephone network operated by the DC Emergency Management Agency, which provides for the dissemination of disaster warning information to the participating agencies in the Washington metropolitan area. This Circuit allows all participating agencies to receive information at the same time.

All transmission will be by voice and will be heard by all locations connected to the circuit. Strict control of the Circuit is necessary to ensure the immediate availability of NAWAS for emergency operations. Warning points/control points will continuously monitor the Circuit and, when necessary, take immediate action to stop unauthorized use of the Circuit. Normally the Circuit is restricted to emergency messages, tests, exercises, and necessary checking and reporting of Circuit malfunctions and equipment conditions.

Under established priority, the Attack Warning will be given priority over all other traffic by users of NAWAS/WACS. The Washington Control Point will exercise control of priorities within its jurisdictions when they do not conflict with national priorities.

All NAWAS/WACS communications are oral and transmissions are classified as privileged communications under provision of Section 605 of the Federal Communications Act of 1934 as amended, and rules and regulations promulgated there under.

Tests of the NAWAS will be conducted three times daily at times scheduled by the Chief of the Federal Emergency Management Agency Operations (FEMA/OPS) Center. All warning points will receive the initial ring and hear the inter-warning center

announcement. The District of Columbia Warning/Control Point will acknowledge when requested to do so by the FEMA/OPS center or the Regional Warning Center.

Participating agencies are: Alexandria Fire and Police, Andrews Air Force Base, Arlington Police and Fire, Bolling Air Force Base, Capitol Police, DC Fire & EMS, DC Hospital Coordination Center, DC Police, Dept. of Defense Police, VA Medical Center, Dulles Airport, Fairfax County Public Service Communications Center, Fairfax City Police, Falls Church Police, FBI, Fort Belvoir, Federal Protective Service, GSA, Lorton Central, Loudon County Fire and Sheriff, Maryland State Police Headquarters, Maryland State Police Forrestville, Military District of Washington, Metro Transit, Montgomery County Police, NASA Goddard, Naval District of Washington, NIH, NIST, National Weather Service, Oak Hill, Patuxent Institution, Prince George's County Fire and Police, Prince William County Fire, Reagan National Airport, Secret Service, Smithsonian, State Department, U.S. Marshals, U.S. Park Police, VDOT, Virginia State EOC, Virginia State Police, White House OPS Center, Alexandria Emergency Management, Fairfax County Emergency Management, HHS, MDOT District 3, Maryland State Emergency Management, Montgomery County Emergency Management, OPM, Prince George's County OEP, Prince William County Emergency Management, Montgomery County Fire & Rescue.

POINT B – Future Enhancements

1. A state of the art communications system to support disease surveillance to include these features:
 - Rapid notification and information exchange regarding disease outbreaks
 - Dissemination of diagnostic results and emergency health information
2. Coordination should include all levels of emergency response activities: local, state, and federal.
3. The following should be accomplished:
 - Develop methods to educate and inform the public
 - Establish separate toll-free hot lines and Internet access for healthcare practitioners and the public
 - Develop prepared multi-lingual fact sheets on biological agents
4. Involve the public in planning efforts and work with civic organizations.
5. Expand the capability of “Reverse 911” to handle more calls simultaneously and expand the system to other national capital region jurisdictions.

N. Annex: Mass Fatality Management Implementation

The following assumptions are made with regard to mass fatality management for a bioevent:

- Hospital and municipal mortuaries have limited resources for conducting mass fatality operations, including administration, autopsies, and storage of corpses.
- Mutual aid resources and federal assets will be needed to support local medical examiner activities.
- Most victims will have sought medical care before dying.
- Most victims will have been tentatively identified before dying.
- The following fatality issues should be considered as the situation evolves:
 - Region-wide casualty counts
 - Region-wide fatality counts
 - Possible primary and alternate pathogen(s) based on general information being received from medical facilities and hospitals
 - Contiguosness of the pathogen
 - Locations/facilities that will be used as Alternative Mortuary Facilities (AMFs)
 - Staffing for AMFs
 - Need for medical examiner resources, including personnel and materiel
 - Request for federal support

Once the decision to implement the mass fatality management plan has been made, the Office of the Chief Medical Examiner (OCME) should be responsible for these issues:

- Identifying and designing a morgue area, as required
- Maintaining security of bodies and personnel effects
- Covering, tagging, and protecting bodies prior to transport to the morgue
- Coordinating the removal of bodies from other areas to the morgue area
- Performing tasks to insure accurate certification of death

O. Annex: Medical Examiner Expansion Program (MEEP) Operations

Local medical examiners will establish and sustain operations of primary medical examiner facilities in the early stages of a bioevent. While the burden on already-taxed medical examiner offices is recognized, the sustained operation is necessary in order to process large numbers of anticipated fatalities as well as to create the infrastructure necessary for the integration of mutual-aid, state, and federal assets.

The Medical Examiner Expansion Program (MEEP) will need to expand as the crisis evolves and medical examiner facilities become overwhelmed. This should include internal expansion and augmentation of mortuary facilities and capabilities as well as the establishment and integration of the Alternative Mortuary Facilities (AMFs). Medical examiner augmentation is further accomplished by the request for and integration of federal assets. Requirements should be communicated and coordinated with Federal HHS, through ESF-8 in the appropriate State EOCs, and with FEMA, to set up, staff, and operate fatality management activities. Federal resources, which may be requested at the direction of the emergency management agencies, include the following assets:

1. **Disaster Mortuary Operational Response Team(s) (DMORTs).** DMORTs can augment staff in overwhelmed hospitals, municipal mortuaries, and medical examiner offices and may also establish freestanding medical examiner operations, albeit in direct coordination and cooperation with the local medical examiner office, as part of the overall MEEP.
2. **Other medical assets.** These may include other assets tasked under ESF-8 (through HHS) such as DoD mortuary assets, Veterans Administration, and others.

ESF-#8 (Health and Medical) will coordinate with all medical examiner offices in the region to acquire and field mortuary transport vehicles to support transport activities. Based on the numbers of fatalities, a large amount of transport vehicles may be needed. Communications with all transport assets should be coordinated through their primary dispatch centers. Where this is unavailable, such as with some private funeral directors' vehicles, RACES (an amateur radio station licensed to an emergency management agency) personnel or other communications personnel (i.e., National Guard, REACT) can be assigned to accompany the vehicles. Other resources that may be accessed for this task include medical examiner transport vehicles from outlying areas, National Guard and DoD assets, General Service Administration vehicles, and commercial vehicles. Funeral director associations should also be asked to contribute vehicles and personnel.

The medical examiner's office having jurisdiction, as well as other NCR medical examiner offices as needed, will need to provide resources such as carry devices, stretchers, and personal protection, including gloves and masks. Funeral directors and funeral director associations will be asked to contribute resources.

Ideally, deceased persons should be transported to a central location that will be the point of access for patient data entry into a tracking system for case management and where the body will be stored, usually in refrigeration at 34-37°F, until processing is possible. Documents indicating the medical history of the patient, if the patient was transported from a medical care facility, or scene of death information if the body is found dead at some other location may accompany the body. Bodies will be identified, clothing and property inventoried, evidence or biological specimens collected, and the cause and manner of death determined.

Hospitals, medical examiner offices, and AMFs will track victims. Tracking should include, at the very least, name, address, sex, date of birth, cause of death (actual or assumed), social security number, medical examiner of record, and relevant ME facility. Tracking of fatalities is critical to ensure that the whereabouts and cause of death is properly recorded, to ensure that law enforcement officials have access to bodies and records for follow-on investigation, and to ensure that families and friends of the deceased can be notified.

The medical examiner having jurisdiction will receive all death notifications at their central office/communications center. The Chief Medical Examiner will establish a uniform cause of death. Surviving family should be made aware that the identification process might take a minimum of 3 to 4 days, particularly if casualty numbers are extremely high.

An autopsy of each deceased person may not be performed for events that result in several thousand fatalities but can be accomplished, if desirable, with supplemental resources and staff for fatalities that number several hundred. U.S. Department of Health and Human Services (DHHS) Disaster Mortuary Teams (DMORTS) may be used to augment local ME activities. Since a terrorist event implies that the deaths are homicidal in nature, the decision by the Chief Medical Examiner to limit post mortem procedures to external examinations should be coordinated with both local and federal law enforcement agencies.

Disposition of bodies should be according to the number of victims, the pathogen involved, and facilities available. Burial is the preferred method if it can be accomplished in a timely manner and there is no threat to the public health. In extreme, catastrophic incidents, where overwhelming numbers of fatalities exist, it may be necessary to perform mass burials. In general, there is a very limited capability to perform cremation en masse. However, for certain biological agents, this may be the safest permanent disposition. It may be necessary to incinerate bodies en masse if the agent is transmissible and body counts are very high. The decision to deny release of the body to the next-of-kin should be supported by governmental officials in order to gain public acceptance over the anticipated objection of family members, who should be provided a death certificate signed by the Chief Medical Examiner. It is extremely important to accommodate religious preferences for burial *where possible*.

A representative from OCME should oversee the establishment of a family assistance center (FAC), staffed by trained disaster and crisis counselors, to assist grieving family

members. It is critical that an FAC be located away from the incident scene and that security is provided by local law enforcement so as to shield the families from the media. A public information officer, designated by the Chief Medical Examiner, should provide briefings to family members at regular intervals.

Both the NCR planning guidance and the current state plans are based on the National Association of Medical Examiners' (NAME) Multiple Facility Incident Plan (MFIP), March 2000.

POINT A – CURRENT RESOURCES

1. Disaster Mortuary Operational Response Team (DMORT). The Federal Response Plan tasks the National Disaster Medical System (NDMS) under Emergency Support Function 8 (ESF-8) to provide victim identification and mortuary services. These responsibilities include the following:

- Temporary morgue facilities
- Victim identification
- Forensic dental pathology
- Forensic anthropology methods
- Processing
- Preparation
- Disposition of remains

In order to accomplish this mission, NDMS entered into a Memorandum of Understanding with the National Association for Search and Rescue (NASAR), a nonprofit organization, to develop Disaster Mortuary Operational Response Teams (DMORTs). DMORTs are composed of private citizens, each with a particular field of expertise, who are called upon in the event of a disaster. DMORT members are required to maintain appropriate certifications and licensure within their discipline. When members are activated, all States recognize licensure and certification, and the Federal Government as a temporary federal employee compensates the team members for their duty time.

During an emergency response, DMORTs work under the guidance of local authorities by providing technical assistance and personnel to recover, identify, and process deceased victims.

The DMORTs are directed by the National Disaster Medical System in conjunction with a Regional Coordinator in each of the ten federal regions. Teams are composed of Funeral Directors, Medical Examiners, Coroners, Pathologists, Forensic Anthropologists, Medical Records Technicians and Transcribers, Fingerprint Specialists, Forensic Odontologists, Dental Assistants, X-ray Technicians, Mental Health Specialists, Computer Professionals, Administrative Support Staff, and Security and Investigative Personnel.

The Department of Health and Human Services (HHS)/United States Public Health Service (USPHS) Office of Emergency Preparedness (OEP)/National Disaster Medical System (NDMS), in support of the DMORT program, maintains a Disaster Portable Morgue Unit (DPMU) at the OEP warehouse located in Rockville, Maryland. The DPMU is a depository of equipment and supplies for deployment to a disaster site. It contains a complete morgue, with designated workstations for each processing element, and prepackaged equipment and supplies.

2. Disaster Assistance Recovery Team (DART). DART responds to the scene of mass fatality incidents to assist in recovering and removing the bodies of the deceased. The team is made up of civilian and/or sworn law enforcement personnel who are specially trained in the recovery of the deceased and the collection of certain types of evidence from the scene of a mass fatality incident. This provides safe, effective, and humanitarian recovery of the deceased in the metropolitan Washington area.

POINT B – ENHANCED CAPABILITY

1. A Memorandum of Understanding should also be established with Dover Air Force Base (Dover, DE), which is able to receive 10,000 casualties. They have large numbers of caskets and portable x-ray equipment.
2. Establish a Memorandum of Understanding with the Armed Forces Institute of Pathology (AFIP) at Walter Reed Army Medical Center (WRAMC) to use their forensic pathologists, mortuary assistants, and embalmers.
3. Provide OCMs with specific detailed information tailored towards mass fatality management resulting from biological WMD regarding decontamination isolation, and antibiotic prophylaxis for incorporation into their response plans.
4. Identify resources at the federal level that can be included in the individual state response plans. This includes what can be provided, when it is available, and who should be contacted and by what method for mobilization.
5. Finally, ensure the experiences gained in the planning process are shared among the three state OCMs through groups such as the Mass Fatality Working Group, which can produce formal MOUs or mutual aid compacts for mass fatality management. These forums will identify other gaps to which solutions must be found as the planning process proceeds.

P. Annex: Environmental Surety

Once the immediate bioevent has terminated, measures should be taken to ensure the safety of the resident population. The measures may include sampling the environment in which the event has taken place (as appropriate by agent), designing control measures, and communicating these control measures to the population. Surety measures should be based on the specific agent, which will have been identified in earlier stages of the incident response. Suggested agent-specific guidance is listed below.

1. Anthrax

- **Exposure and sampling.** Anthrax used in a bioterrorist incident would likely be dispersed as an aerosol, exposing large areas of soil and vegetation to anthrax spores. Although the spores can persist for decades, it is extremely difficult to create a secondary aerosol because of strong adhesive forces between the infectious particle and the surface area on which it rests. Therefore, the danger of direct infection to humans is relatively minor. Samples should be obtained, however, to fully understand the spatial extent and concentration of spores. During this sampling, personnel should wear protective masks capable of blocking inhalation of the spores. It may also be dispersed as a food- or water-borne agent producing gastrointestinal effects.
- **Animal exposure and treatment.** There are no gross physical signs evident to the casual observer that an animal is infected with anthrax. Near the terminal stages of the disease, hemorrhages from the mouth, nose, and anus would be suggestive of anthrax. All exposed animals, whether or not they appear to be infected or have high temperatures, should be isolated and given antibiotics and vaccinations. Infected and exposed animals should be in a separate location from non-exposed animals and should be given long-acting antibiotics immediately. High dosages of antibiotics (50 ml of long-acting penicillin; 300,000 IU/ml) are recommended. Such antibiotic therapy can stop anthrax intoxication if given early. Infected or exposed cattle should be vaccinated as soon as possible using Thraxol® (Miles Laboratories) or Anthrax Spore Vaccine® (Colorado Serum). The vaccine provides protective immunity starting 3 to 5 days after vaccination. A booster vaccination should be given according to label directions. Antibiotic therapy can prevent death until the vaccine can provide immunity. There are no currently approved vaccines for domestic animals other than cattle.
- **Disposal of dead animals.** If anthrax is suspected or confirmed in an animal carcass, the animal should not be moved. This will aid in preventing contamination of the surrounding area. Bury the carcass deep in the ground and cover the carcass with anhydrous calcium oxide (quicklime). Decontaminate the soil with 5% lye and quicklime. Some have advocated incineration; however, a concern of incineration is that during the process, the smoke produced may aerosolize some of the anthrax before the agent is killed and create an airborne threat. It is theoretically possible for flies and biting insects to transmit the disease, but this has not been documented and is unlikely. There is a low probability of transmission to humans under normal circumstances.

- **Vector control.** There are no arthropod vectors associated with anthrax; therefore, no control measures are indicated.
- **Decontamination.** In areas of heavy contamination, decontamination should be considered. Decontamination methods for all types of bacterial agents include burning the area or spraying the area with a mixture of bleach and water. Spraying water or oil on the area helps prevent secondary aerosol exposure but does not decontaminate the bacteria. Anthrax spores are highly resistant to decontamination. Any commercial hypochlorite (bleach) product can be used to produce a decontaminant that will rapidly kill all potential biological threat agents, including *Bacillus anthracis* spores. Chlorine dosages sufficient to rapidly kill anthrax spores would kill other microorganisms even faster. Sodium hypochlorite, formaldehyde, and phenol are also effective sporicidal decontaminants. These chemicals are caustic and corrosive, in addition to being toxic and offensive to humans and animals. A new commercial sporicidal product, Exspor, has been found to be less corrosive than hypochlorite bleach, not caustic, and generally harmless to humans; however, inhalation of the aerosolized vapor during decontamination may result in breathing difficulties due to the acidity of the solution. Except for emergency response operations, steps must be taken to capture the runoff produced by the decontaminant. Failure to capture the runoff may constitute illegal release of a hazardous substance under federal, state or district laws and regulations. The danger of anthrax to animals, both domestic and wild, will continue to exist as long as there are significant spores in the environment.
- **Building assessment.** Building ventilation systems in direct line of any aerosol release of anthrax spores may be contaminated and require decontamination. The building must first be assessed to determine if any anthrax spores are present. Then, if spores are found, the level of decontamination must be determined. It is generally believed that re-aerosolization of sufficient spores to infect humans is very unlikely. Irrespective of the effectiveness of the decontamination, the public may not accept rehabilitation of the building. There is very little danger of anthrax contamination in buildings used to diagnose or treat anthrax patients. Normal hospital infection control techniques will adequately deal with any potential building contamination.

2. Brucellosis

- **Exposure and sampling.** Brucellosis used in a bioterrorist incident would likely be dispersed as an aerosol, exposing large areas of soil and vegetation to the organism. An alternative mode of attack would be the deliberate contamination of food products, probably dairy products. Brucellosis is normally transmitted by contact with tissues, blood, urine, vaginal discharges, aborted fetuses and especially placentas through breaks in the skin or by ingestion of dairy products. Furthermore, the bacteria are relatively fragile in the environment and will not survive for long periods of time. Therefore, environmental sampling is not indicated.
- **Animal exposure and treatment.** Animals in the affected area should be tested for the presence of brucellosis. Infected animals exhibit no obvious signs of the infection to the casual observer. Antibiotics can be used to treat infected animals, but the treatment is frequently not effective and the animal remains a carrier of the disease. As a result, infected animals should be destroyed and their carcasses properly disposed of.
- **Disposal of dead animals.** Dead or dying animals pose little threat to humans as long as strict sanitation procedures are followed, such as wearing gloves (latex or nitrile) when handling the carcasses, thoroughly washing hands, and disinfecting contaminated areas. As stated above, the primary means of transmission are contact with bodily fluids or consumption of contaminated tissue. Therefore, dead animals must be dealt with prior to rehabilitating an area. Carcasses should be collected and incinerated. If incineration is not feasible, they should be buried and covered with quick lime.
- **Vector control.** There are no arthropod or insect vectors associated with brucellosis; therefore, no control measures are indicated.
- **Decontamination.** Due to the frailty of the bacteria, only local decontamination at the site of animal carcasses is indicated. As previously stated, bodily fluids are the primary contaminants from dead or dying animals. Any disinfectant can be used, but quick lime is probably the most convenient.
- **Building assessment.** There are no concerns, beyond those associated with dead or dying animals, in rehabilitation of housing. Standard hospital infection control techniques will deal with any contamination introduced in treatment and housing of infected humans.
- **Public information.** An aggressive public information program is essential to ensure that no raw or undercooked meat nor any unpasteurized dairy products from potentially infected animals is consumed. This is especially important for any wild animals that may be part of the returning residents' diets because of the decreased ability to monitor the health of wildlife.

3. Plague

- **Exposure and sampling.** Plague used in a biological attack would likely be dispersed as an aerosol. An aerosol attack also would infect rodents, and they would subsequently become carriers of the disease. An alternate attack mechanism would be to release large numbers of infected fleas to establish a reservoir in rodents and other hosts. Classic environmental sampling of media (air, water, and soil) is not indicated. Capture and sampling of rodents and fleas should be carried out to determine if the attack has created a reservoir for the disease.
- **Animal exposure.** Animals infected with bubonic plague often show an obvious “bubo” (swollen lymph node, often draining pus). Carrier animals, or those dying from acute pneumonic plague, may show no overt signs of infection. Therefore, it is important to test mammalian species. Although over 200 mammalian species have been reported to have the natural form of the disease, rodents, particularly rats, are the natural reservoir for the disease.
- **Disposal of dead animals.** There is a direct danger to humans from dead and dying animals. Infected fleas on the carcasses can bite and subsequently infect humans or other animals. Carcasses should be handled with strict sanitary precautions (gloves, hand washing, etc.) and incinerated as soon as possible. Fleas should be prevented from leaving the host animal and infesting a bystander. This can be accomplished by using an insecticide to kill the fleas.
- **Vector control.** If the disease is found to be present in the local rodent/flea populations, aggressive rodent and flea control measures should be undertaken. This, coupled with an aggressive public health monitoring program, are essential to keeping the subsequent disease incidence under control.
- **Decontamination.** Basic sanitation is the only concern in buildings. That, coupled with the aggressive rodent control measures, will minimize the likelihood of subsequent infections.
- **Public information.** As stated earlier, a forceful public information program that stresses the need for sanitation and rodent/flea control measures will help to keep the subsequent infections to a minimum.

4. Smallpox

- **Exposure and sampling.** Smallpox will not have any significant environmental consequences.
- **Animal exposure/disposal of dead animals/vector control.** There are no animal hosts for smallpox.
- **Decontamination.** Natural weathering in the environment will virtually eliminate any hazard after 1 or 2 days.
- **Building assessment.** Standard hospital infection control measures will reduce the likelihood of further spread of the disease due to contamination in buildings.

5. Tularemia

- **Exposure and sampling.** Tularemia used in a bioterrorist incident would likely be dispersed as an aerosol, exposing both animals and humans to the agent. Both humans and animals can acquire the infection from inhalation. The organism can remain viable for weeks or months at low temperatures in water, soil, carcasses, and hides, and for years in frozen rabbit meat. Classical environmental sampling of media (air, soil, and water) is probably not justified. Although the infection can be acquired by ingestion of contaminated soil and water by animals and humans, the most common mode of transmission is through contact via skin abrasions and mucous membranes. To determine if tularemia has been established in the affected area, collecting and testing wild rabbits will yield an understanding of the extent of the disease in the environment. Arthropods, especially ticks, are another indicator of the extent of the disease in the animal population.
- **Human or animal exposure.** Visible evidence of the infection often depends on what clinical form of tularemia the animal possesses. In ulceroglandular tularemia, there is often a necrotic ulceration at the site of inoculation, often the extremities, due to the bite of an arthropod and swelling of regional lymph nodes. Infection is not visibly evident to the casual observer in the intestinal, pneumonic, and typhoidal forms of tularemia. If tularemia is found to be present in the wildlife population, domestic animals should be tested in the affected area for the disease.
- **Disposal of dead animals.** There is a direct danger to humans from dead and dying animals. Infected arthropods, especially ticks, that remain on the carcasses can bite and subsequently infect humans or other animals. Carcasses should be handled with strict sanitary precautions (gloves, hand washing, etc.) and buried or incinerated as soon as possible. Ticks should be prevented from leaving the host animal and infesting bystanders. This can be accomplished by using an insecticide to kill the ticks.
- **Vector control.** Aggressive control measures should be taken to eradicate ticks and other arthropods if the disease is found to be present in the wildlife population.
- **Decontamination.** Decontamination of affected areas is not indicated, although heat and disinfectants kill the bacteria rather easily. Natural aging should be sufficient to eliminate any contamination in the environment.

- **Building assessment.** There is no need to decontaminate buildings used for treatment or housing of infected patients beyond normal hospital infection control measures. There is no evidence to support acquisition of the disease through inhalation of dust.
- **Public information.** An aggressive public information campaign should be mounted to fully inform the public of the dangers associated with handling and consuming infected carcasses and the symptoms associated with arthropod bites from infected animals.

Q. Annex: Pandemic Influenza

One of the major differences between natural disasters and pandemic influenza is the likelihood of large-scale, geographically dispersed health effects. As is the case with bioterrorism, pandemic influenza has the potential to severely affect the population and cause immeasurable damage to daily life.

The following chart depicts a summary of the similarities and differences between pandemic influenza⁴ and bioterrorism

⁴ CDC Pandemic Influenza: A Planning Guide for State and Local Officials – Draft 2.1

ANNEX Q, FIGURE 1: PANDEMIC INFLUENZA AND BIOTERRORISM**A Summary of Similarities and Differences**

ISSUE	BIOTERRORISM	PANDEMIC INFLUENZA
Likelihood	High	High
Warning	None to days	Days to months
Occurrence	Focal or multifocal	Nationwide
Transmission/Duration of exposure	Point source/limited	Person-to-person/6-8 weeks
Casualties	Hundreds to thousands	Hundreds of thousands to millions
First responders susceptible?	Yes	Yes
Disaster Med Team support/response	Yes	No (too widespread)
Main site for preparedness, response, recovery, and mitigation	State and Local Areas	State and Local Areas
<i>Essential preparedness components</i>		
Surveillance	Yes	Yes
Law enforcement intelligence	Yes	No
Investigation	Yes	Yes
Research	Yes	Yes
Liability programs	No	Yes
Communication systems	Yes	Yes
Medical triage and treatment plans	Yes	Yes
Vaccine supply issues	Yes (for most likely threats)	Yes
Drug supply issues	Yes	Yes
Training/tabletop exercises	Yes	Yes
Maintenance of essential community services	Yes	Yes
ISSUE	BIOTERRORISM	PANDEMIC INFLUENZA
<i>Essential response components</i>		
Rapid deployment teams	Yes	No
Effective communications/media relations strategy	Yes	Yes
Vaccine delivery	Yes (for most)	Yes
Drug delivery	Yes (for some)	Yes
Hospital/public health coordination	Yes	Yes
Global assistance	Possibly	Yes
Medical care	Yes	Yes
Mental health support	Yes	Yes
Mortuary services	Yes	Yes
Supplies and equipment	Yes	Yes
<i>Essential mitigation components</i>		
Enhanced surveillance	Yes	Yes
Enhanced law enforcement intelligence	Yes	No
Vaccine stockpile	Yes (selected agents)	Prototype vaccines only
Drug stockpile	Yes	Yes
Pre-event vaccination	Vaccination of selected groups only	Vaccination of medically high-risk groups with pneumococcal vaccine

SECTION III, PLANNING CONSIDERATIONS FOR COG MEMBER JURISDICTIONS

A. Incident Management/Logistics

Planning Issues	Planning Details	Yes	No	Point of Contact
1. Capability to participate in a unified command structure to integrate and coordinate local assets with those of neighboring jurisdictions and regional, state and federal assets				
2. Emergency Management Agency (EMA) should plan to assume responsibility for coordinating the management of:	Patients (In conjunction with Health Department)			
	Staff and volunteers			
	Current supplies and resources			
	Requests for additional resources			
	Requests for mutual aid			
	Requests for state and federal aid			
	Access to National Pharmaceutical Stockpile			
	Access to National Disaster Medical System (NDMS), Disaster Medical Assistance Teams (DMATs), National Medical Response Team (NMRT) and Disaster Mortuary Operational Response Teams (DMORTs)			
	Security Issues			
3. Provide for regular interagency meetings, possibly "virtual"				
4. Consider establishing a local bioterrorism task force (BTF) to interact with the regional COG BTF				
5. EMA should create and maintain resource directories with appropriate Points of Contact (POC) for:	Critical steps/components of the plan			
	Obtaining neighboring jurisdictions' aid			
	Accessing regional, state, federal assets Subject Matter Experts (SME)			
6. Develop and maintain an inventory list of existing critical supplies such as ventilators and antibiotics and health care personnel				

Planning Issues	Planning Details	Yes	No	Point of Contact
7. EMA should plan to develop a crisis telephone hotline system during a large scale bioevent incident to handle public requests for information and to staff it with both EMA and public health personnel for:	Public health and safety issues			
	Locator Information			
8. Provide training to essential personnel on response to a large scale bioterrorist attack				
9. Exercise existing plans for response to biological incident on a regular basis (integrate with regional exercises)				
10. Develop a system of after action reports (AAR) and use these to improve the response and readjust plans to reflect these changes				
11. Designate staging areas for equipment and personnel				
12. Designate landing sites for air traffic supplying materiel such as the National Pharmaceutical Stockpile				
13. Assume responsibility for dissemination of accurate information via print and electronic media to the public to include:	Efforts to reduce panic and stress using simple information and creating the impression of a calm, "in-control" government			
	Instructions to prevent spread of disease and personal decontamination			
	Signs, symptoms and possible risks			
	Locations to report to for medical care			
	Immunization/prophylaxis sites			

B. Medical and Public Health Surveillance

Planning Issues	Planning Details	Yes	No	Point of Contact
1. Creation of adequate lines of communication and collaboration among:	Local health agencies			
	Emergency Medical Services (EMS)			
	Medical Examiner's (ME) Office			
	Public Health Laboratory (PHL)			
	Environmental health department			
	Hospitals – infection control practitioners, infectious disease professionals, emergency departments, et al			
	Schools – school nurses, absenteeism both student and employees			
	Local veterinary practitioners			
	Zoological veterinary personnel			
	Poison control center			
	Police and fire/rescue			
	Other response organizations in the community			
	Animal control and local animal shelters			
2. Develop systems for quick detection of unusual disease occurrence	Use of Rapid Influenza Tests			
	Use of Bio agent tests when patients test negative to influenza test			
3. Consider use of symptoms and syndromes versus diagnosis-based analysis				
4. Identify and use current health department systems for reportable diseases to:	Facilitate lines of communication between health care providers and DOH			
	Coordinate epidemiological investigation			
	Coordinate transfer of specimens to PHL			
5. Establish baseline information and detect subsequent deviations in excess of a set percentage of the following:	Sentinel hospital urgent care and emergency room data			
	Sentinel pharmacy data on specific over the counter (OTC) and prescription medications			
	EMS dispatch data –review of 911 dispatch/calls			
	Reports of unusual deaths or clusters, and unusual out-of-hospital deaths by ME's office			

Planning Issues	Planning Details	Yes	No	Point of Contact
	Reports of communicable disease absent from the area for a lengthy period			
	A previously unseen disease occurring in the area			
	Unusual animal disease or deaths reported by veterinarians and/or animal control			
	School and government absenteeism to include law enforcement, fire and EMS			
6. Develop method to monitor key indicators				
7. Identify laboratories (other than public health lab) capable of timely diagnosis e.g. state health laboratory, Centers for Disease Control and Prevention (CDC), U.S. Army Medical Research Institute for Infectious Disease (USAMRIID)				
8. Ensure standard operating procedures (SOP) in place at DOH to:	Investigate reported cases by interviewing patients and providers			
	Establish case definitions			
	Plot epidemic curves, calculate possible disease rates and generate reports			
9. Consider use of geographic mapping systems such as ArcView to plot clusters of patients				
10. Determine potential for secondary transmission of identified disease				
11. Develop and maintain information sheets on specific agents for dissemination to:	First responders			
	Healthcare agencies and providers			
	The media			
	The public			
	Elected officials and government agencies			
12. Use of email, broadcast faxes, secure web-based systems, mass paging where available for dissemination of bi-directional information in time of crisis				
13. Provision of a 24/7-telephone number at the DOH to ensure timely reporting				

C. Mass Immunization and Prophylaxis

Planning Issues	Planning Details	Yes	No	Point of Contact
1. Develop plans to contain and control disease outbreak through immunization and/or prophylaxis				
2. Develop protocols for different agents: Communicable Non-communicable				
3. Create stockpiles of durable items such as syringes, gloves, alcohol preps, and sharps containers				
4. Maintain documentation on how to access local, regional, state, and federal medication resources				
5. Develop memoranda of understanding (MOU) with pharmacies, local drug manufacturers or sales representatives for provision of antibiotics				
6. Develop a plan to establish mass immunization sites or prophylaxis distribution sites:	Schools			
	Churches			
	Community centers			
	Shopping centers			
	Local government buildings			
7. Consider door-to-door mass immunization or distribution of prophylaxis programs and designate personnel resources to complete this task – (will need MOUs to accomplish this)				
8. Ensure provision of site security for these sites and medication repositories, and for movement of stocks from storage sites to immunization sites				
9. Develop simple record keeping and follow-up procedures for use during an incident				

Planning Issues	Planning Details	Yes	No	Point of Contact
10. Develop MOUs with non-clinical volunteers such as retirees, social clubs, associations, etc. to provide clerical support personnel for registration and logistics such as obtaining signed consent to maintain medical personnel requirements at a bare minimum				
11. Establish secure storage sites for warehousing supplies and maintaining refrigeration of medications during transport as needed e.g.:	Furrier cold storage facilities			
	Meat and food freezers at grocery stores			
	Ice rinks			
	Railroad refrigeration cars			
	Grocery distribution trucks with refrigeration			
12. Develop a plan to immunize and/or prophylax health care workers and their families in a prioritized fashion to ensure high staffing levels, and obtain consensus from:	Governmental leadership			
	Public health ethicists			
	Religious leaders			
13. Create a distribution plan for National Pharmaceutical assets and appoint the individual responsible for oversight management				
14. Consider establishing a local pharmaceutical cache to provide prophylaxis and treatment for responders prior to arrival of NPS "push package"				
15. Coordinate with local veterinarians to use their stocks of drugs e.g. Atropine.				

D. Mass Patient Care

Planning Issues	Planning Details	Yes	No	Point of Contact
1. Create a plan for rapid expansion of the existing health care system				
2. Consider the following:	Increase of hospital beds in existing hospitals by opening unused areas			
	Contact NDMS and request DMAT support early in incident			
	Increased staffing via call-back protocols			
	Mutual aid agreements with bordering jurisdictions			
	Use of alternate care facilities as described in annex on mass patient care			
	Integration of local volunteer organizations			
	Use of beds in skilled nursing facilities, urgent care and clinics, endoscopy suites, closed hospitals, etc			
	Integration of military treatment facilities into local planning efforts			
	Cancellation of elective surgeries and non-emergency procedures			
	Consider early discharges or relocating patients to distant or mutual aid hospitals			
	Consider discussion with local hotels to provide bed space for non-critical patients			
	Consider establishing a single hospital as the receiving hospital for biological patients if a communicable disease so as to isolate patients and prevent additional disease spread			
3. Research local legal implications of quarantine and isolation	Legal experts			
	Governmental leadership			
4. Design procedures for possible isolation and/or quarantine procedures				

Planning Issues	Planning Details	Yes	No	Point of Contact
5. Develop a plan and accompanying MOUs with appropriate organizations to utilize non-traditional staffing resources:	Volunteer or retired physicians, nurses, veterinarians, dentists			
	Nursing, medical, dental students from local universities or colleges			
	Teaching (non-clinical) faculty from medical, dental, nursing schools			
	Pharmacy and physician assistant students			
	Nurse practitioners and nurse anesthetist students			
	Laboratory technicians and phlebotomists			
	Administrative personnel with previous clinical experience			
6. Develop a procedure to credential responding personnel who must carry proof of licensure at all times				
7. Pre-designate casualty collection points which can provide limited (austere) treatment at schools, community centers, sports arenas (with adequate cover), armories, churches, etc.				
8. Integrate Red Cross support for family services, first aid (non biological) and food and shelter				
9. Develop treatment protocols, decontamination protocols and protocols for appropriate levels of personal protective equipment (PPE) needed for different biological agents and provide these to all healthcare providers				
10. Plan to shelter and feed domestic animals by working with:	Humane societies			
	Veterinarians			
11. Integrate psychological support and counseling resources for healthcare providers, exposed and potentially exposed individuals, and the general public into patient care protocols e.g.:	Critical Incident Stress Management (CISM)			
	Capital Area Crisis Response Team			
	Social workers, psychiatrists, psychologists and other mental health workers			
	Clergy			

E. Mass Fatality Management

Planning Issues	Planning Details	Yes	No	Point of Contact
1. Plan to establish temporary morgue facilities				
2. Ensure respectful disposition of the dead by integrating religious organizations into planning process and during actual event to consider issues:	Autopsy			
	Mass graves			
	Delay in burial			
	Cremation			
3. Increase morgue capacity by using:	Ice rinks			
	Cold storage facilities			
	Refrigerated trucks			
	Refrigerated railroad cars			
4. Develop protocols for:				
a. Victim identification using a unique sequential identifier by:	Locating personal identification information on victim such as driver's license, school or employee ID			
	Identification of deceased by family members where appropriate			
	Fingerprint identification by comparing with FBI, DMV or similar databases			
	Dental identification			
b. Autopsy procedures to include:	Number of autopsies as required by the FBI and considered practical considering numbers of fatalities			
	Maintaining collection and chain of evidence			
	Determining levels of PPE that will be required for different BT agents			
c. Decontamination of remains as deemed necessary and dependent on biological agent				
d. Mass burials or cremations				
e. Family notifications and provision of death certificates				
5. Develop a plan to establish a "Family Center" for relatives to receive information on loved ones and to obtain grief counseling as needed				

F. Environmental Surety and Recovery Phase

Planning Issues	Planning Details	Yes	No	Point of Contact
1. Identify requirements:	Determine approx. number of animals in the area			
	Use this data to determine types & quantity of veterinary medications needed			
	Estimate quantity of pesticide needed			
2. Establish central coordination and receiving area for additional local, state, and federal supplies and develop MOUs:	Ascertain existing supplies of animal antibiotics, vaccines, pesticides and PPE			
	Determine gaps			
	Develop MOUs with veterinary and pesticide suppliers, veterinary laboratories, federal facilities for additional supplies			
3. Establish sites for disposal of animal carcasses:	Identify facilities for burial or incineration			
	Consider soil type, distance to groundwater, proximity to surface water			
	Ensure availability of quick lime			
	Inventory list of heavy equipment			
4. Establish a cache of supplies and equipment:	Use gaps to determine amounts			
	Provide for rotating stocks			
	Ensure no leakage of pesticides, decontaminants			
5. Secure and train personnel to conduct environmental surety operations	Define required job skills			
	Coordinate with trade & professional organizations to solicit volunteers			
6. Establish plans to disseminate information	Hazards associated with biological agent			
7. Ensure ongoing psychological support available for health care providers and the public				

SECTION IV, REFERENCES

A. Biological Agents^{5,6}

Anthrax

Description of Agent: Anthrax is a highly lethal infection caused by infection with the Gram-positive bacterium, *Bacillus anthracis*. In naturally acquired cases, organisms usually gain entrance through skin wounds (causing a localized infection), but may be inhaled or ingested. Intentional release by belligerents or terrorist groups would presumably involve the aerosol route, as the spore form of the bacillus is quite stable and possess characteristics ideal for the generation of aerosols.

Signs and Symptoms: The incubation period for inhalational anthrax is 1-6 days. Fever, malaise, fatigue, cough, and mild chest discomfort are rapidly followed by severe respiratory distress with dyspnea, diaphoresis, stridor, and cyanosis. Shock and death occur within 24-36 hours of the onset of severe symptoms. In cases of cutaneous anthrax, a papule develops, then vesicates, finally developing into a black eschar surrounded by moderate to severe edema. The lesions are usually painless. Without treatment, the disease may progress to septicemia and death, with a case-fatality rate of 20%. With treatment, fatalities are rare.

Diagnosis: Physical findings are typically non-specific in inhalational cases, with initial complaints of malaise, fever, headache, and possibly substernal chest pain. A widened mediastinum is sometimes seen on x-ray late in the course of illness, and correlates with a pathologic finding of hemorrhagic mediastinitis, the "classic" presentation of inhalational anthrax. The bacterium may be detected by Gram stain of blood and by blood culture late in the course of illness.

Treatment: Although usually ineffective in inhalational cases once symptoms are present, antibiotic treatment with high-dose penicillin, ciprofloxacin, or doxycycline should nonetheless be administered. Although typically sensitive T2: HPBXL A to penicillin, resistant isolates are readily produced in the laboratory. For this reason, in the

⁵ The COG recommends member jurisdictions use the latest edition of the Medical Management of Biological Casualties Handbook, United States Army Medical Research Institute of Infectious Diseases (USAMRIID), as the standard reference for medical aspects of bioterrorism response planning, and the Control of Communicable Diseases Manual, 17th Edition, American Public Health Association (APHA), 2000, as the guide for treatment of civilian populations. The full text of USAMRIID's Medical Management of Biological Casualties Handbook, 4th Edition, February, 2001 is available on-line at the following URL:

<http://www.nbc-med.org/SiteContent/HomePage/WhatsNew/MedManual/Feb01/handbook.htm>

⁶ Except for Pandemic Influenza, agent information summaries were taken from: Biological Agent Information Papers, United States Army Medical Research Institute of Infectious Diseases (USAMRIID), Fort Detrick, Maryland. The complete listing of agents is available at the following URL:

<http://www.nbc-med.org/SiteContent/MedRef/OnlineRef/GovDocs/BioAgents.html>

case of an intentional release, and in the absence of antibiotic sensitivity data, treatment should be initiated with IV ciprofloxacin (400 mg q 8-12 hrs) or IV doxycycline (200 mg initially, followed by 100 mg q 12 hrs). Supportive therapy may be necessary.

Prophylaxis: A licensed vaccine is available for use in those at risk of exposure. Vaccination is undertaken at 0, 2, and 4 weeks (initial series), followed by booster doses at 6, 12, 18 months and then yearly. Oral ciprofloxacin (500 mg po bid) or doxycycline (100 mg po bid) is useful in cases of known or imminent exposure. Following confirmed exposure, all unimmunized individuals should receive three 0.5 ml SQ doses of vaccine over 30 days, while those vaccinated with < 3 doses prior to exposure should receive an immediate 0.5 ml booster. Anyone vaccinated with the initial 3-dose series in the previous 6 months does not require boosters. All exposed personnel should continue antibiotic therapy for 4 weeks. If vaccine is unavailable, antibiotics may be continued beyond 4 weeks and should be withdrawn only under medical supervision.

Decontamination and Isolation: Drainage and secretion precautions should be practiced. Anthrax is not known to be transmitted via the aerosol route from person to person. Following invasive procedures or autopsy, instruments and surfaces should be thoroughly disinfected with a sporicidal agent (high-level disinfectants such as iodine or 0.5% sodium hypochlorite).

Outbreak Control: Although anthrax spores may survive in the environment for many years, secondary aerosolization of such spores (such as by pedestrian movement or vehicular traffic) generally presents no problem for humans. The carcasses of animals dying in such an environment should be burned, and animals subsequently introduced into such an environment should be vaccinated. Meat, hides, and carcasses of animals in affected areas should not be consumed or handled by untrained and/or unvaccinated personnel.

Brucellosis

Description of Agents: Human Brucellosis is an infection caused by one of four species of Gram-negative coccobacilli of the genus *Brucella*. *B. abortus* is normally a pathogen of cattle, while *B. melitensis*, *B. suis*, and *B. canis* are pathogens of goats, pigs, and dogs, respectively. Organisms are acquired by humans via the oral route through the ingestion of unpasteurized milk and cheese, via inhalation of aerosols generated on farms and in slaughterhouses, or via inoculation of skin lesions in persons with close animal contact. Intentional exposure by belligerents would likely involve aerosolization but could involve contamination of foodstuffs.

Signs and Symptoms: The incubation period is quite variable, with symptoms often requiring months to appear; this marked variability would appear to temper somewhat the use of *Brucellae* as weapons. Symptoms of acute and subacute brucellosis are quite non-specific and consist of irregular fever, headache, profound weakness and fatigue, chills and sweating, and generalized arthralgias and myalgias. Depression and mental status changes are noteworthy. Osteoarticular complications, particularly involving the axial

skeleton (sacroiliitis, vertebral osteomyelitis) are common. Fatalities are uncommon, even in the absence of therapy.

Diagnosis: Naturally occurring cases may often be suspected based on a history of close animal contact or consumption of implicated foodstuffs. Brucellae may be isolated from standard blood cultures, but require a prolonged period of incubation; cultures should thus be maintained for six weeks if brucellosis is suspected. Bone marrow cultures yield the diagnosis in a higher percentage of cases than do peripheral blood cultures. A serum agglutination test is available and often helpful.

Treatment: Doxycycline (100 mg po bid) plus rifampin (600-900 mg po qd) administered for six weeks is the regimen of choice for uncomplicated brucellosis. Doxycycline + streptomycin, TMP/SMX + gentamicin, and ofloxacin + rifampin are acceptable alternative regimens.

Prophylaxis: Avoidance of unpasteurized milk products and appropriate veterinary vaccination practices are sufficient to prevent most naturally occurring brucellosis. Persons inadvertently exposed to veterinary vaccine strains of brucella have been successfully prophylaxed with doxycycline + rifampin for 10 days. No human brucellosis vaccine is available in the western world.

Decontamination and Isolation: Drainage and secretion precautions should be practiced in patients who have open skin lesions; otherwise no evidence of person-to-person transmission of brucellosis exists. Animal remains should be handled utilizing universal precautions and disposed of properly. Surfaces contaminated with brucella aerosols may be decontaminated by standard means (0.5% hypochlorite).

Outbreak Control: In the event of an intentional release of brucella organisms, it is possible that livestock will become infected. Thus, animal products in such an environment should be pasteurized, boiled, or thoroughly cooked prior to consumption. Proper treatment of water, by boiling or iodination, would also be important in an area subjected to intentional contamination with brucella aerosols.

Plague

Description of Agent: Plague is an infectious disease caused by the Gram-negative, bipolar-staining bacterium, *Yersinia pestis*. Naturally occurring plague is most often acquired by the bite of a flea that had previously fed on infected rodents. In such cases, plague classically presents as a localized abscess with secondary formation of very large, fluctuant regional lymph nodes known as buboes (bubonic plague). Plague may also be transmitted via aerosol and by inhalation of sputum droplets from coughing patients. In such instances, a primary pneumonic form may develop and, in the absence of prompt therapy, progress rapidly to death within 2-3 days. Intentional release by belligerents or terrorist groups would presumably involve aerosolization, but could also involve the release of infected fleas. Plague may be considered a lethal agent.

Signs and Symptoms: Pneumonic plague has an incubation period of 2-3 days, and begins with high fever, chills, headache, hemoptysis, and toxemia, progressing rapidly to dyspnea, stridor, and cyanosis. Death results from respiratory failure, circulatory collapse, and bleeding diatheses. Bubonic plague has an incubation period of 2 to 10 days, and presents with malaise, high fever, and tender lymph nodes (buboes). Bubonic plague may progress spontaneously to the septicemic form, with spread to the CNS, lungs, and elsewhere.

Diagnosis: To facilitate prompt therapy, plague must be suspected clinically. A presumptive diagnosis also may be made by Gram or Wayson stain of lymph node aspirates, sputum, or CSF. The plague bacillus may be readily cultured from aspirates of buboes or from the blood of septicemic patients.

Treatment: Early administration of antibiotics is quite effective, but must be started within 24 hours of onset of symptoms in pneumonic plague. The treatment of choice is streptomycin (30 mg/kg/day IM in 2 divided doses x 10 days) or gentamicin (2 mg/kg, then 1.0-1.5 mg/kg q 8 hrs x 10 days). Intravenous doxycycline (200 mg, then 100 mg q 12 hrs x 10-14 days) is also effective; chloramphenicol should be added in cases of plague meningitis. Supportive therapy for pneumonic and septicemic forms is typically required.

Prophylaxis: A licensed, killed vaccine is available. The primary vaccination series consists of a 1.0 ml IM dose initially, followed by 0.2 ml doses at 1-3 months and 3-6 months. Booster doses are given at 6, 12 and 18 months and then every 1-2 years. As this vaccine appears in animal experiments to offer no protection against aerosol exposure, victims of a suspected attack with aerosolized plague, or respiratory contacts of coughing patients, should be given doxycycline (100 mg po bid x 7 days or the duration of exposure, whichever is longer).

Decontamination and Isolation: Drainage and secretion precautions should be employed in managing patients with bubonic plague; such precautions should be maintained until the patient has received antibiotic therapy for 48 hours and has demonstrated a favorable response to such therapy. Care must be taken when handling or aspirating buboes to avoid aerosolizing infectious material. Strict isolation is necessary for patients with pneumonic plague.

Outbreak Control: In the event of the intentional release of plague into an area, it is possible that local fleas and rodents could become infected, thereby initiating a cycle of enzootic and endemic disease. Such a possibility would appear more likely in the face of a breakdown in public health measures (such as vector and rodent control) which might accompany armed conflict. Care should be taken to rid patients and contacts of fleas utilizing a suitable insecticide; flea and rodent control measures should be instituted in areas where plague cases have been reported.

Tularemia

Description of Agent: Tularemia is an infection caused by the Gram-negative coccobacillus, Francisella tularensis. Two biogroups are known; biogroup tularensis, also known as type A, is the more virulent form, and is endemic in much of North America. Naturally acquired tularemia is contracted through the bites of certain insects (notably ticks and deerflies), or via contact with infected rabbits, muskrats, and squirrels. Intentional release by belligerents would presumably involve aerosolization of living organisms. Although naturally acquired tularemia has a case-fatality rate of approximately 5%, the pneumonic form of the disease, which would predominate in the setting of intentional release, would likely have a greater mortality rate.

Signs and Symptoms: Naturally acquired tularemia frequently has an ulceroglandular presentation, although a significant minority of cases involve the typhoidal or pneumonic forms. The incubation period averages 3-5 days, but varies widely. Use of tularemia as a weapon would likely lead to a preponderance of pneumonic and typhoidal cases, and large aerosolized inocula would be expected to shorten the incubation period. Ulceroglandular disease involves a necrotic, tender ulcer at the site of inoculation, accompanied by tender, enlarged regional lymph nodes. Fever, chills, headache, and malaise often accompany these findings. Typhoidal and pneumonic forms often involve significant cough, abdominal pain, substernal discomfort, and prostration in addition to prolonged fever, chills, and headache.

Diagnosis: Prompt diagnosis relies on clinical suspicion. Routine laboratory tests are rarely helpful, and F. tularensis does not typically grow in standard blood cultures, although special media are available for the culturing (under BL-3 containment conditions) of blood, sputum, lymph node material, and wound exudates if the diagnosis is suspected. Serology is available to confirm the diagnosis in suspected cases.

Treatment: Streptomycin (7.5-15 mg/kg im q 12 hrs for 7-14 days) is the drug of choice for all forms of tularemia. Gentamicin (3-5 mg/kg/d (q 8-12 hrs for 7-14 days) is an acceptable alternative. Relapses are more common with tetracycline (500 mg po q 6 hrs for 14 days) therapy, although this alternative may be employed in patients who cannot tolerate aminoglycosides.

Prophylaxis: A live, attenuated vaccine is available as an investigational product through USAMRIID (Ft Detrick MD 21702). It may be given to those, such as laboratory workers, at high risk of exposure. A single dose is administered by scarification. Intramuscular streptomycin will prevent disease following documented exposure, but is not recommended following tick bites or animal contact.

Decontamination and Isolation: Tularemia is not transmitted person-to-person via the aerosol route, and infected persons should be managed with secretion and drainage precautions. Heat and common disinfectants (such as 0.5% hypochlorite) will kill F. tularensis organisms.

Outbreak Control: Following intentional release of *F. tularensis* in a given area, it is possible that local fauna, especially rabbits and squirrels, will acquire disease, setting up an enzootic mammal-arthropod cycle. Persons entering such an area should avoid skinning and eating meat from such animals. Water supplies and grain in such areas might likewise become contaminated, and should be boiled or cooked before consumption. Organisms contaminating soils are unlikely to survive for significant periods of time and present little hazard.

Variola (Smallpox)

Description of Agent: Smallpox is an infection caused by Variola virus, a species of Orthopoxvirus. Naturally occurring smallpox has been eradicated from the globe, with the last case occurring in Somalia in 1977. Repositories of virus are known to exist in only two laboratories worldwide. Monkeypox, Cowpox, and Vaccinia are closely related viruses that might lend themselves to genetic manipulation and the subsequent production of smallpox-like disease.

Signs and Symptoms: The incubation period of smallpox is about 12 days. Clinical manifestations begin acutely with a prodromal period involving malaise, fevers, rigors, vomiting, headache, and backache. After 2-4 days, skin lesions appear and progress uniformly from macules to papules to vesicles and pustules. Lesions progress centrifugally and scab in 1-2 weeks. In unvaccinated individuals, Variola Major, the classical form of the disease, is fatal in approximately 30% of cases.

Diagnosis: In its full-blown form as typically seen in unimmunized individuals, smallpox is readily diagnosed on clinical grounds. Differentiation from other vesicular exanthems such as varicella and erythema multiforme might be difficult, however, in cases of Variola Minor or in disease modified by prior vaccination. Electron microscopy can readily differentiate variola virus from varicella but not from vaccinia and monkeypox when performed on lesion scrapings. The virus can be grown in chorioallantoic membrane culture.

Treatment: Supportive care is the mainstay of smallpox therapy. No specific antiviral therapy exists.

Prophylaxis: A licensed, live Vaccinia Virus vaccine is available, and is administered via a bifurcated needle using a multiple puncture technique (scarification). Given the eradication of smallpox, vaccine would only be indicated in laboratory settings or where biological warfare was a distinct possibility. Vaccination is probably protective for at least 3 years. Exposed persons may be managed with prompt vaccination. Vaccinia Immune Globulin (VIG), given IM at a dose of 0.6 ml/kg, may prove a useful adjunct to vaccination, although its precise role is unclear.

Decontamination: Given the extreme public health implications of smallpox reintroduction, patients should be placed in strict isolation pending review by national health authorities. All material used in patient care or in contact with smallpox patients should be autoclaved, boiled, or burned.

Outbreak Control: Smallpox has considerable potential for person-to-person spread. Thus, all contacts of infectious cases should be quarantined for 16-17 days following exposure, and given prophylaxis as indicated. Animals are not susceptible to smallpox.

Influenza Pandemic⁷

Description of Agent: The Influenza type A virus is most often responsible for influenza epidemics and pandemics.

Signs and Symptoms: The incubation period for influenza is ~1-3 days. Symptoms include fever, headache, soreness, exhaustion, sneezing, watery eyes, mucus discharge from the nose, sore throat, and cough. Complications in a flu pandemic arise from viral and bacterial pneumonias, and severe illness and death can occur.

Diagnosis: Influenza (flu) pandemics are distinguished from the more common annual outbreaks of flu by the degree of difference in the genetic makeup of the virus. Although all flu viruses mutate very frequently, these mutations are usually in the form of a subtle drift. Individuals who have recovered from recent infections have partial immunity to new drifted viruses. A flu pandemic, however, is caused by a virus that has undergone a major shift in its genetic makeup. A pandemic virus has shifted so far away from its recent predecessors that most individuals in a population, even if they have recovered from the flu in their lifetime, have no immunity to this radically changed virus. Laboratory confirmation is made by isolation of influenza viruses from pharyngeal or nasal secretions or washings in cell culture or embryonated eggs, by direct identification of viral antigens in nasopharyngeal cells and fluids by FA test or ELISA, or by amplification of viral RNA [see the Control of Communicable Diseases Manual, 17th Edition, American Public Health Association (APHA), 2000].

Decontamination and Isolation: The influenza virus is very contagious, and infection can occur by breathing aerosol droplets from infected individuals, especially in enclosed areas such as planes and busses, or by direct contact with the virus on contaminated surfaces. Intentional release of influenza would likely be in the form of aerosolized droplets.

Prophylaxis: Immunization with a vaccine containing killed virus may provide 70-80% protection against infection in healthy young adults when the vaccine antigen closely

⁷ CDC Health Topics: Influenza, General Information. U.S. Centers for Disease Control and Prevention available on-line at the following URL: <http://www.cdc.gov/ncidod/diseases/flu/fluvirus.htm>

matches the circulating strains of influenza virus. Vaccination may also reduce the severity of the disease in older individuals. Caregivers and other contacts should be vaccinated appropriately and take droplet precautions.

Outbreak Control: Emphasis on basic personal hygiene (dangers in unprotected coughs and sneezes, and hand to mucous membrane transmission). Amantadine or rimantadine started within 48 hours of onset may be of value. See detailed guidance provided in the Control of Communicable Diseases Manual, 17th Edition, American Public Health Association (APHA), 2000.

B. Glossary of Terms and Acronyms

24/7	24 hours/day, seven days/week
ACS	Auxiliary Communications Service
AMC	Alternative Medical Center
AMF	Alternative Mortuary Facility
ARES	Amateur Radio Emergency Service
AVMA	American Veterinary Medical Association
ATSDR	Agency for Toxic Substances & Disease Registry
BL	Biosafety Level
BTF	Bioterrorism Task Force
BW-IRP	Biological Weapons Improved Response Program
BIOEVENT	A bioterrorist incident or a large-scale naturally occurring event such as pandemic influenza
CACRT	Capital Area Crisis Response Team
CAO	Chief Administrative Officer
CAPWIN	Capital Wireless Integrated Network
CB	Citizen Band
CCRF	Commissioned Corps Readiness Force
CDC	Centers for Disease Control and Prevention
CISM	Critical Incident Stress Management
COG	Metropolitan Washington Council of Governments
COGMARS	Metropolitan Washington Council of Governments Mutual Aid Radio System
DARPA	Defense Advanced Research Projects Agency
DART	Disaster Assistance Recovery Team
DCHA	District of Columbia Hospital Association
DCS	Disaster Communications Service
DHHS	Department of Health & Human Services
DMAT	Disaster Medical Assistance Team
DMORT	Disaster Mortuary Operational Response Team
DMV	Department of Motor Vehicles
DoD-GEIS	Department of Defense – Global Emerging Infections System
DOH	Department of Health
DPMU	Disaster Portable Morgue Unit
EAS	Emergency Alert System
ECS	Emergency Communications Service
ED	Emergency Department
EMA	Emergency Management Agency
EMAC	Emergency Mutual Aid Compact
EMS	Emergency Medical Services
EMT	Emergency Medical Technician
ENCOMPASS	Enhanced Consequence Management Planning and Support System
EOC	Emergency Operations Center
ESF	Emergency Support Function

ESSENCE	Electronic Surveillance System for the Early Notification of Community-based Epidemics
EWB	Electronic Watchboard
FAC	Family Assistance Center
FBI	Federal Bureau of Investigation
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FRP	Federal Response Plan
GIS	Geographic Information Systems
GMRS	General Mobile Radio System
HazMat	Hazardous Materials
HEICS	Hospital Emergency Incident Command System
HEPA	High Efficiency Particulate
HMARS	Hospital Mutual Aid Radio System
ICD-9 Codes	International Classification of Diseases Codes
ICS	Incident Command System
ID	Identification
ILS	Influenza-like Syndrome
JCAHO	Joint Commission on Accreditation of Healthcare Organizations
JIC	Joint Information Center
ME	Medical Examiner
MEEP	Medical Examiner Expansion Program
MFIP	Multiple Fatality Incident Plan
MMRS	Metropolitan Medical Response System
MMST	Metropolitan Medical Response Team
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MREP	Medical Response Expansion Program
MSCA	Military Support to Civilian Authorities
MTF	Military Treatment Facility
MWPHAC	Metropolitan Washington Public Health Assessment Center
NAME	National Association of Medical Examiners
NASAR	National Association for Search and Rescue
NBC	Nuclear, Biological, Chemical
NCR	national capital region
NCRRS	National Capital Region Radio System
NDMS	National Disaster Medical System
NG	National Guard
NMRI	Naval Medical Research Institute
NMRT	National Medical Response Team
NOAA	National Oceanic and Atmospheric Administration
NOVA	National Organization for Victim Assistance
NPS	National Pharmaceutical Stockpile
OCME	Office of the Chief Medical Examiner
OPTC	Outpatient Treatment Center
OTC	Over The Counter

PHL	Public Health Laboratory
POC	Point of Contact
POD	Point of Dispensing
PPE	Personal Protective Equipment
RACES	Radio Amateur Civil Emergency Services
REACT	Radio Emergency Associate Communications Teams
SADR	Standardized Ambulatory Data Record
SBCCOM	U.S. Army Soldier and Biological Chemical Command
SITREP	Situation Report
SME	Subject Matter Expert
SOP	Standard Operating Procedure
SPC	Sentinel Pharmaceutical Center
SVC	Sentinel Veterinarian Clinic
USAMRIID	U.S. Army Medical Research Institute for Infectious Diseases
USPHS/EOP	U.S. Public Health Service Office of Emergency Preparedness
VA	Veterans Affairs
VEE	Venezuelan Equine Encephalitis
VMAT	Veterinary Medical Assistance Team
VMI	Vendor Managed Inventory
WMD	Weapons of Mass Destruction
WMD-CST	Weapons of Mass Destruction Civil Support Team

C. References

Briefings made to Bio-Defense Steering Committee

- LTC Mark Kortepeter, MD – U.S. Army Medical Research Institute for Infectious Disease (USAMRIID): “USAMRIID Support to Local Governments.”
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- LTC Xavier Stewart, Commander, 3rd Civil Support Team, Army National Guard, Ft. Indiantown Gap, Pennsylvania: “Communications Assets of the 3rd Civil Support Team.”
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- Jonathan Arden, MD, Office of the Chief Medical Examiner of the District of Columbia: “Medical Examiner Concerns.”
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- COL Jay Wright, National Guard Bureau Surgeon General’s Office: “Can Military TRICARE System Provide Early Warning.”
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- Dolores Derrington, Mitre Corporation: “Use of ENCOMPASS for Medical Surveillance During Inaugural Events.”

- James J. Hodge, Georgetown University Law School: “Isolation and Quarantine in an Era of Bioterrorism.”
- James “Smokey” Stanton, Maryland Institute of Emergency Medical Services (MIEMSS): “Maryland Health and Medical System Preparedness and Response Plan – Weapons of Mass Destruction.”
- Steven Charvat, Marasco Newton Group: “Results of Regional Hospital WMD Preparedness Survey.”
- “Lessons Learned from TOPOFF/NCR 2000.”
- “How and Where Do We Build Bridges to State Plans?”
- “Feedback from USPHS/OEP on the Plan.”

Workshops and Symposia Attended by Battelle and/or TriMed

- Mass Fatality Working Group
- BW-IRP/CDC Smallpox Workshop
- BW-IRP/NDPO Law Enforcement-Epidemiology Workshop
- BW-IRP Community Leaders’ Decision Tree Workshop
- Second Annual Johns Hopkins National Symposium on Medical and Public Health Response to Bioterrorism, November 28-29, 2000, Washington, DC
- USAMRIID Biological Warfare and Terrorism Medical Issues and Response Satellite Broadcast, September 26-27, 2000
- SBCCOM/USPHS/OEP Mass Prophylaxis Workshop, Arlington County, VA, January 11-12, 2001
- U.S. Army War College Strategy Conference
- Weapons of Mass Destruction Medic 2000
- Joint Workshop on Biological Response – State of Delaware and Dover Air Force Base
- CMI-Services Executive Inter-Operability Council Meeting
- Interagency Working Group on Communications, sponsored by FEMA
- Maryland Terrorism Forum Meeting
- 54th Presidential Inaugural Health and Medical Planning Committee Meetings

Review of Plans and Documents from Other Major Cities and/or Regions and Attendance at Planning Meetings

- New York City Mayor's Office of Emergency Management (New York, NY)
- South Western Pennsylvania Regional MMRS Planning Meeting (Pittsburgh, PA)
- Seattle, WA MMRS Bio-Response Plan
- San Diego County, CA MMRS Bio-Terrorism Response Plan
- State of Ohio Terrorism Annex

Documents (in addition to local plans included for reference on the compact disk version of this report)

DC Department of Health's CDC-funded comprehensive bioterrorism preparedness and response assessment

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Phil Perking and Myra Socher
31 August 2001

SECTION V, LOCAL PLANS

Outline of Existing Resources: Similarities and Differences

The purpose of the comparison chart that follows is to identify the existing resources, similarities, and differences between the medical response plans for biological weapons of mass destruction for the District of Columbia, State of Maryland, and Commonwealth of Virginia. Each of the three jurisdictions approached the planning task in a different way. The District of Columbia has a plan that approaches from specific Weapons of Mass Destruction–Biological Agents; Virginia has a Terrorism Consequence Plan; Maryland has a Response Plan for Weapons of Mass Destruction.

In addition to having unique titles for similar plans, each jurisdiction also organizes their plans differently. The District of Columbia and the Commonwealth of Virginia approach planning by assigning functional tasks to different agencies and giving little detail as to how each agency should carry out its functional task. The State of Maryland also assigns functional tasks to different agencies, although their plan goes into greater depth as to how each agency shall carry out its specific tasks. With the assumption that Virginia and the District of Columbia are leaving the details to the agencies to work out, it is not possible to compare the information without plans from each of the respective agencies; thus assigned functional tasks to different agencies with few specifics is the common denominator.

In order to present the data in a user-friendly manner, the functional areas are listed in the left-hand column and the states are listed in rows. The similarities/differences can easily be drawn by reading the document horizontally, starting with the functional areas and their subgroups to the far left.

Electronic copies of the plans are provided on the accompanying compact disk.

SECTION V, FIGURE 1: OUTLINED EXISTING RESOURCES, SIMILARITIES, AND DIFFERENCES

		MD	VA	DC	Maryland	Virginia	District of Columbia
Surveillance (Active & Passive)					S.D.1 / S.D. 2	A - 7, K - 10	1.16.2
	Responsible Agency (s)				Maryland Department of Health & Mental Hygiene	Department of Health	Department of Health, Bureau of Epidemiology
	Chain of Events	S.D 1 pg. 20	A-7.5	1.16.2 pg.5	Daily monitoring of reportable conditions, syndromes, and illnesses by the twenty three counties and Baltimore city public health departments; data shall be forwarded to, collated by and analysis performed at the statewide level by the Maryland Department of Health and Mental Hygiene	Conduct environmental/health monitoring as required	Daily data from hospital and medical provider – epidemiologic system supplies daily data to Bureau of Epidemiology with DOH
Detection					S.D. 2	A - 7, K - 10	1.16.2
	Responsible Agency (s)	S.D 2 pg. 20	A-1 A-8	1.16.2 pg.5	Maryland Department of Health & Mental Hygiene	Department of Health, Department of Environmental Quality, Department of Emergency Services, Virginia Department of Agriculture and Consumer Services	Department of Health, Bureau of Epidemiology
	Data collection Locations	S.D 2 pg. 20	N/A	1.16.2 pg.5	All counties and Baltimore City: Emergency Medical Service, Hospitals, Hospital Emergency Departments, Office of the Chief Medical Examiner, Public Health Facilities, augmented by veterinary practitioners and veterinary diagnostic services	Detail Not Specified	Detail Not Specified, "may be detected by EMS providers, hospital staff, physician services, or other means"
	Standard for Detection: Time	S.D 1 pg. 20	N/A	N/A	Detection in 72 hours	Detail Not Specified	Detail Not Specified
Notification					A.1 / A.2 / A.3 / / A.5	Page 7, D.	1.5 / 1.16.1 / 1.16.2
	Responsible Agency (s)	A.2 pg. 21	D-7	1.5 pg. 3	Maryland Department of Health & Mental Hygiene	Virginia Emergency Operations Center	Announced – EMA / Unannounced – DOH

Section V, Figure 1: OUTLINED EXISTING RESOURCES, SIMILARITIES, AND DIFFERENCES (continued)

		MD	VA	DC	Maryland	Virginia	District of Columbia
	Findings Reported to these agencies:	A.3- A.5 pg. 21	D-7	1.5 pg. 3 1.16 pg. 6	Local Health Departments, Hospital Infection Control Programs, MEMA, MIEMSS within 24 hours of findings	Appropriate state and federal agencies	Local Hospitals through Clearing House Hospital Network, Other Jurisdictions/agencies through EMA Emergency Operations Center; notification of regional/state/federal public health agencies by Director, DOH or designee. Announced Event – EMA would notify; Unannounced Event – Director of DOH would alert EMA and EMA would notify according to District's response plan
	Levels of Notification	A.1 pg. 21	D-3 D-6	N/A	Alert levels: "Normal and Routine," "Suspect Findings," "Confirmed Outbreak," "Notice of Upgrade of Alert or Cancellation of Alert"	Routine Operations, Increased Readiness, Response Operations, Recovery Operations	Detail Not Specified
Diagnosis (Agent Identification)					B. Department of Health and Mental Hygiene, Functional Area Tasks, 1.B	I - 12 & 13, K - 10	1.13.1
	Responsible Agency (s)	1.B.1 pg.31	I-13	1.13.1	Maryland Department of Health & Mental Hygiene, Laboratories Administration	Virginia Department of Emergency Services, Departments of Health, Environmental Quality, Agriculture and Consumer Services, and Military Affairs	Bureau of Epidemiology and Disease Control, Preventative Health Service of DOH, and DCFEMS HazMat Team
	Diagnosis Standard	1.B.1 pg.31	I-12	N/A	Capable of analyzing and accurately identifying, at a minimum, the current "A" list of biological agents as identified by the federal Center for Disease Control and Prevention	To develop the capability to quickly identify the use, level of, and exposure to biological agents following an act of terrorism, and implement the necessary protective actions to prevent, limit, and control exposure to emergency workers and the general public	Detail Not Specified
Medical Prophylaxis					MPC. 1 1-6	K-2	2.0

Section V, Figure 1: OUTLINED EXISTING RESOURCES, SIMILARITIES, AND DIFFERENCES (continued)

		MD	VA	DC	Maryland	Virginia	District of Columbia
	Responsible Agency (s)	MPC 1 pg. 22-23	K-2	2.0 pg. 7	Local Hospitals (100 patients for 72 hours), Local Health Departments (100 patients for 72 hours); Secretary of Department of Health and Mental Hygiene should obtain assurance and provide assistance, if necessary, so that each Local Health Department has a cache of medications under its control sufficient to treat one hundred live victims for three days	Local and regional Medical Rescues, backed by State through Virginia Catastrophic Casualty Plan	Identified by DOH Director, Chief & State Epidemiologist for the Bureau of Epidemiology and Disease Control; EMA will help implement plan
	Target Population Determination	MPC 4.8 pg. 35-36	N/A	2.2 pg. 8	Department of Health and Mental Hygiene should identify, train, and educate a specific cadre of health professionals knowledgeable about biological agents to provide essential scientific and medical resource to state EOC, health care facilities, and the media during a WMD incident	Detail Not Specified	Based upon identified agent, CDC protocol, and recommendations of subject matter experts
	Identification of Special Need Populations	MPC 4.2 pg. 51-52	N/A	2.1 to 2.1.5	Local Health Office, establishment of alternate treatment centers both on and off the facility's campus	Detail Not Specified	Yes
	Determination of Prophylaxis Regimens	MPC 4.8 pg. 35-36	N/A	2.1	Department of Health and Mental Hygiene should identify, train, and educate a specific cadre of health professionals knowledgeable about biological agents to provide essential scientific and medical resource to state EOC, health care facilities, and the media during a WMD incident	Detail Not Specified	Determined by Chief and State Epidemiologist for the Bureau of Epidemiology and Disease Control, CDC protocol, and recommendations of subject matter experts
	Plan for Administering Prophylaxis	MPC 4.2 pg. 51-52	N/A	2.3	Local Health Office, establishment of alternate treatment centers both on and off the facility's campus	Detail Not Specified	Carried out by DOH and EMA through unified command structure

Section V, Figure 1: OUTLINED EXISTING RESOURCES, SIMILARITIES, AND DIFFERENCES (continued)

		MD	VA	DC	Maryland	Virginia	District of Columbia
	Specifics of Administration	MPC 4.2 pg. 51-52	N/A	2.3 to 2.3.5	Local Health Office, procedures and treatment protocols for separating and handling victims, casualties, and the worried well	Detail Not Specified	Suggested considerations only
	Personnel required to carry out the approved prophylaxis program	MPC 4.3 pg. 52	N/A	2.4	Local Health Office	Detail Not Specified	Determined by the Director of the DOH, the Chief and State Epidemiologist for the Bureau of Epidemiology and Disease Control, CDC protocols, and recommendations of subject matter experts, and approved by the Director of the DOH
Mass Patient Care					MPC. 1 & 2, B. Department of Health and Mental Hygiene, Functional Area Tasks Section 4	K - 1 thru K - 10, Annex P	3.0
	Responsible Agency (s)	MPC 1 pg. 22-23	K-1 K-2	3.1.2	Local Health Offices, overseen by Department of Health and Mental Hygiene	Assigned to Local Resources, Virginia Department of Health, Department of Emergency Services, Department of Mental Health, Mental Retardation and Substance Abuse	Coordinated by DOH through EMA and supported by American Red Cross
	Treatment Protocols	MPC 4.8 pg. 35-36	K-10	3.2 3.2.1	Department of Health and Mental Hygiene should identify, train, and educate a specific cadre of health professionals knowledgeable about biological agents to provide essential scientific and medical resource to state EOC, health care facilities, and the media during a WMD incident	Assigned to Department of Health, DCLS (?), and Department of Health Professionals; Details not specified	Determined by Director, DOH, the Chief and State Epidemiologist for the Bureau of Epidemiology and Disease Control, CDC protocols, and recommendations of subject matter experts, and approved by the Director, DOH
	Infectious Disease	MPC 4.2 pg. 51-52	K-10	3.1.5	Local Health Office, procedures and treatment protocols for separating and handling victims, casualties, and the worried well	Assigned to Virginia Department of Health; Details not specified	Infectious Diseases section of the DOH at the direction of the state epidemiologist
	Casualty Collection Sites and Shelters	4.2 pg. 51	K-10	3.1.1	Local Health Office, establishment of alternative treatment centers both on and off the facility's campus	Assigned to Virginia Department of Health, DCLS, Department of Health Professionals; Details not specified	Pre-identified through the auspices of EMA and DCFEMS

Section V, Figure 1: OUTLINED EXISTING RESOURCES, SIMILARITIES, AND DIFFERENCES (continued)

		MD	VA	DC	Maryland	Virginia	District of Columbia
	Voluntary Personnel	4.2 (5) pg.52	K-10	3.1.6	Local Health Office, credentialing of volunteers not affiliated with a health care facility	Assigned to Virginia Department of Health, DCLS (?), and Department of Health Professionals; Details not specified	Through the JIC, directed to predetermined staging area for backfill of exposed staff or fleeing staff from facilities
	Transportation	4.1 4.3 pg. 56	K-10	3.3	Local Emergency Medical Services	Assigned to Virginia Department of Health; Details not specified	Utilization of existing health care facilities will be coordinated by the DOH. EMS transportation officer, designated by the incident commander, will determine the distribution of casualties from the scene
	Security	4.2 (7) pg. 52	K-10	3.4	Local Health Office, arrangements for security for the facility and any alternate treatment centers and cites	Assigned to Virginia State Police; Details not specified	The EMA shall coordinate the security for treatment areas, medication storage areas, immunization stations, etc.
	Family Support	pg. 75	N/A	3.6	MEMA, establishing a Family Center	Detail Not Specified	DOH will assist commission on Mental Health, EMA, the Red Cross and other agencies to establish a family support program for the families of casualties
	Worried Well	4.2 (11) pg. 52	N/A	3.7	Local Health Office, protocols for separating and handling victims, casualties, and worried well	Detail Not Specified	DOH will assist commission on Mental Health, EMA, the Red Cross and other agencies to ensure appropriate medical and psychological care for the "worried well"
	CISD	4.2 (14) pg. 52	P-1	3.8	Local Health Office, CISD for facility staff	Assigned to Department of Mental Health, Mental Retardation, and Substance Abuse Services, in addition to Community Service Boards and other mental health organizations; standard is set at 48 hours after disaster	DOH will assist commission on Mental Health, EMA, the Red Cross, and other agencies to establish a CISD program
	Resources						

Section V, Figure 1: OUTLINED EXISTING RESOURCES, SIMILARITIES, AND DIFFERENCES (continued)

		MD	VA	DC	Maryland	Virginia	District of Columbia
	Supplies, Equipment, Pharmaceuticals, etc.	4.2 pg. 52	K-10	3.9	Local Hospitals and Local Health Offices supported by the Department of Health and Mental Hygiene	Assigned to Department of General Services; Details not specified	DOH will provide on-going assessment of emergency equipment, emergency supplies, and pharmaceutical needs and initiate the appropriate requests to ensure those needs are met
	Human Resources	4.2 pg. 52	K-10	3.1.4	Local Hospitals, Local Health Offices, Local Emergency Medical Services	Assigned to Virginia Department of Health, DCLS (?), and Department of Health Professionals; Details not specified	NDMS and other federal assets would come from the DOH Director through EMA as soon as the need to augment staff is projected to exceed the available manpower
EMS Resources					G. Local Emergency Medical Services	K - 10	3.1.1
	Responsible Agency (s)	G pg. 54	K-10	3.1.1	Local Emergency Medical Services	Local and regional Medical Rescues, backed by Virginia Department of Health, DCLS (?), Department of Health Professionals; EMS resources not specified	DC Fire & EMS
Hospital Plan							
	Responsible Agency (s)	N/A	N/A	N/A	Local Health Office and Department of Health and Mental Hygiene	Detail Not Specified	Detail Not Specified
	Provision for Disaster Plan	3.2 pg. 46	N/A	3.1.3	Alternate Treatment Centers, sheltering, decontamination, interfacility/ interhospital credentialing, volunteer credentialing, additional medical equipment/supplies, security, patient identification, water/food/waste disposal, temporary morgue arrangements, procedures and treatment protocols, CISD, discontinuing services, financial accounting, mutual assistance, unified command, PIO, locally identified issues	Detail Not Specified	Human Resources: Purview of Medical facilities and may require activation of internal personnel call-back systems and disaster plans; physician and nurse specialists through Clearinghouse Hospital Network

Section V, Figure 1: OUTLINED EXISTING RESOURCES, SIMILARITIES, AND DIFFERENCES (continued)

		MD	VA	DC	Maryland	Virginia	District of Columbia
ESF 8 - Operations Plan					Appendix G	C - 3 & C - 4, K - 1 thru K - 9	No integration plan specified
	Responsible Agency (s)				Department of Health and Mental Hygiene	Department of Health	Director, DOH
	Provisions for Integration	App G	C-3 C-4	N/A	Agreements between county health departments should include provisions for aid from FEMA	Coordination with ESF-8 agencies	
Mass Fatality Management					D. Office of Chief Medical Examiner, Functional Tasks; Appendix A	K - 10	4.0
	Responsible Agency (s)	D pg. 42 App A	K-10	4	Office of Chief Medical Examiner	Assigned to Virginia Department of Health & DCLS (?); Office of Chief Medical Examiner through Mass Fatality Disaster Plan	Office of the Chief Medical Examiner will oversee the management of the mass fatalities, including identification of casualties
	Next of Kin Notification	2.1 pg. 42	N/A	4.2	Office of Chief Medical Examiner & MEMA Family Center	Detail Not Specified	Office of the Chief Medical Examiner shall, with the assistance of other agencies, provide next of kin information
	Temporary Storage of Deceased	3.2 pg. 43	N/A	4.3	Office of the Chief Medical Examiner may establish a temporary morgue and designate its functions.	Detail Not Specified	Office of the Chief Medical Examiner shall designate additional facilities
	Deployment of NDMS-DMORTS	3.3 pg. 43	N/A	4.3	Duties assigned to Office of the Chief Medical Examiner, although no specific provisions are made	Detail Not Specified	Office of the Chief Medical Examiner may request through EMA